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North Central Forest Experiment Station

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Eastern South Dakota Forest Statistics, 1980

Gerhard K. Raile

Information contained in this report includes the most commonly used Forest Inventory and Analysis (FIA) statistics. However, additional forest resource data can be provided to interested users. Persons requesting additional information that can be provided from the raw inventory data are expected to pay for the retrieval costs. These costs will vary depending on the complexity of the request, from less than $100 for a simple request to $2,000 for a complete retrieval involving the services of an FIA computer programmer. If requests for data conflict with ongoing work, they will be scheduled so as to minimize the impact on the work unit.

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FOREWORD

Forest Inventory and Analysis (FIA) is a continuing endeavor as mandated by the Forest and Rangeland Renewable Resources Planning Act of 1974. Prior inventories were mandated by the McSweeney-McNary Forest Research Act of 1928. The objective of FIA is to periodically inventory the Nation's forest land to determine its extent, condition, and volume of timber, growth, and depletions. Up-to-date resource information is essential to frame intelligent forest policies and programs. USDA Forest Service regional experiment stations are responsible for conducting these inventories and publishing summary reports for individual States. The North Central Forest Experiment Station is responsible for Forest Inventory and Analysis work in Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, eastern South Dakota, and Wisconsin.

Fieldwork for the 1980 eastern South Dakota[1] Forest Survey began in June 1980 and was completed in July 1980. Previous surveys of eastern South Dakota timber resources are dated 1935 and 1965. Eastern South Dakota is the land east of the 103rd meridian as shown on the front cover map.

The forest resources of western South Dakota[2] were surveyed in 1983 by the Intermountain Forest and Range Experiment Station, Odgen, Utah. A report analyzing the timber resources of the entire State will be published by that Station.

Aerial photos used in this Inventory were furnished by USDA Agricultural Stabilization and Conservation Service, Huron, South Dakota.

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[1] *East of the 103rd meridian.*

[2] *West of the 103rd meridian.*

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EASTERN SOUTH DAKOTA FOREST STATISTICS, 1980

Gerhard K. Raile, *Mensurationist*

HIGHLIGHTS

Area

- Forest land area totaled 266,300 acres—0.6 percent of the Unit's total land area.
- Fifty-five percent of the Unit's forest land is unproductive forest.
- Commercial forest land decreased by 31 percent between 1965 and 1980, from 165,400 to 113,600 acres.
- Farmer and Indian owners account for 91 percent of the Unit's commercial forest land—farmers alone own 57 percent.
- Seventy-two percent of the commercial forest land is in the elm-ash (45,500 acres), cottonwood (18,500 acres), and ponderosa pine (17,800 acres) forest types.
- Sawtimber stands account for 42 percent of the commercial forest followed by poletimber stands (23 percent), sapling and seedling stands (22 percent), and nonstocked areas (13 percent).
- Stands between 30 and 81 years of age occupy 49 percent of the commercial forest.
- Fifty-eight percent of the commercial forest is poorly stocked with growing-stock trees (16.7 to 60 percent), 21 percent is medium stocked (61 to 100 percent), and 9 percent is well stocked (101 to 133 percent).
- Wooded strips occupy 160,000 acres. Wooded strips do not include windbreaks and would be commercial forest except for width.
- Windbreaks amount to 127,800 acres and are part of the 601,100 acres of nonforest land with trees in the Unit.

Volume

- The total volume of timber on commercial forest land in 1980 was 76.9 million cubic feet—51.9 million in growing-stock trees, 22.7 million in rough and rotten trees, and 2.3 million in salvable dead trees.
- Growing-stock volume decreased 42 percent from 89.6 million cubic feet in in 1965 to 51.9 million cubic feet in 1980.
- Growing-stock volume per acre decreased 16 percent from 541.7 cubic feet in 1965 to 456.9 cubic feet in 1980.
- Sawtimber volume per acre decreased 10 percent from 1,728 board feet to 1,553 board feet in 1980.
- Elm growing stock took a drastic drop due to Dutch elm disease—from 15.6 million cubic feet in 1965 to 3.9 million cubic feet in 1980. The drop in elm sawtimber volume was even more significant—from 58.0 million board feet in 1965 to 7.8 million board feet in 1980.
- Cottonwood is the species with the most sawtimber volume on commercial forest land (44 percent of the total), followed by ponderosa pine (22 percent) and ash (18 percent).
- Farmers own 57 percent of the growing-stock volume (29.7 million cubic feet), and Indians own 33 percent (17.3 million cubic feet).
- The elm-ash type accounts for 35 percent of the growing-stock volume, the cottonwood type for 31 percent, and the ponderosa pine type for 21 percent.
- The cottonwood type has the most sawtimber volume per acre with 3,659 board feet.
- Sawtimber volume by butt log grade is concentrated in log grade 3 (64 percent of sawtimber volume).

Stand Conditions

- Net annual growth of growing stock amounted to 1.5 million cubic feet in 1979, 2.8 percent of inventory.
- Sawtimber growth was 7.5 million board feet in 1979, 4.3 percent of inventory.
- Mortality of growing-stock trees totaled 176,000 cubic feet in 1979, 0.3 percent of inventory.

- Disease accounts for 57 percent of the mortality.

Timber Use

- Timber removals from growing stock totaled 1,762,000 cubic feet in 1979—679,000 for roundwood products, 57,000 for logging residue, and 1,026,000 for other removals.
- Removals of growing stock for 1979 are 45 percent lower than those in 1964.
- Farmers and miscellaneous private individuals owned 98 percent of the 1979 growing-stock removals.
- Sawtimber removals from commercial forest land totaled 5.6 million board feet in 1979, 41 percent lower than in 1964.
- Growing-stock removals for roundwood products totaled 679,000 cubic feet, 50 percent as firewood and 45 percent as saw logs.
- Wood residue from primary plants amounted to 116,100 cubic feet—23 percent of it was not used.

Biomass

- Live tree biomass (trees greater than 1 inch in d.b.h.) totaled 3.7 million green tons, or 32 tons per acre of commercial forest land.
- Highest yields per acre of live tree biomass are in the cottonwood type (49 tons) and the oak type (34 tons).
- Sixty percent of the live tree biomass is in the boles of trees greater than 5 inches d.b.h., 31 percent is in the tops and limbs of these trees, and 9 percent is in trees less than 5 inches d.b.h.

APPENDIX

ACCURACY OF SURVEY

Forest Inventory and Analysis information is based on a sampling procedure designed to provide reliable statistics at the State level. Consequently, the reported figures are estimates only. The sampling errors shown below mean the chances are two out of three that the true inventory value is within the limits indicated.

For example, the estimated growing-stock volume in eastern South Dakota in 1980, 51.9 million cubic feet, has a sampling error of ±40.48 percent (±21.0 million cubic feet). Therefore, the growing-stock volume from a 100-percent inventory would have a two in three chance of falling between 30.9 and 72.9 million cubic feet.

The following tabulation shows the sampling errors for the 1980 eastern South Dakota Inventory:

Item	Unit totals	Sampling errors
Growing stock	(Million cubic feet)	(Percent)
Volume	51.9	40
Growth	1.5	53
Removals	1.8	27
Sawtimber	(Thousand board feet)	
Volume	176,400	30
Growth	7,548	46
Removals	5,571	25
Commercial forest area	(Thousand acres) 113.6	38

As survey data are broken down into sections smaller than Unit totals, the sampling error increases. The smaller the breakdown, the larger the sampling error. For example, the sampling error for growing-stock volume in a particular county is higher than that for total growing-stock volume in the Unit (table 69 shows the sampling errors for smaller estimates).

SURVEY PROCEDURE

The major steps in the survey of eastern South Dakota were as follows:

1. A total of 222,070 1-acre points were systematically distributed across aerial photos of the entire State. Photo interpretors classified these points as forest land (2,206), nonforest land with trees (2,170), nonforest land without trees (213,372), questionable (501), and water (3,713), in order to make a preliminary estimate of forest area. Next, all of the forest, nonforest with trees, and questionable points were stereoclassified as to forest type, stand-size class, and density. Then 254 points classed as forest, 69 points classed as questionable, and 248 points classed as nonforest with trees were examined on the ground to correct the preliminary area estimate for errors in classification and for actual changes in land use since the photos were taken. At each of 74 commercial forest locations, variable-radius plots (basal area factor 37.5) were established at 10 points uniformly placed over the sample acre. Twenty-four of these 74 locations were plots established during the 1965 survey and remeasured during the 1980 survey to provide improved growth and mortality information. Tree measurements made at commercial forest locations were the basis for estimates of timber volume, growth, mortality, number of trees, and other forest classifications.

2. Growth and mortality on commercial forest land were estimated using data collected on remeasurement plots (those established in 1965 and remeasured in 1980) and on new plots established in 1980. On

remeasurement plots growth was calculated as the observed change in volume on surviving trees. On new plots the remeasurement data and the Stand and Tree Evaluation and Modeling System (STEMS)[3] were used to estimate growth. STEMS is a system of computer programs that projects the growth of individual trees in stands. Mortality was measured on remeasurement plots as the observed volume in trees that died between surveys. On new plots, mortality was estimated by determining the volume in trees that died within 3 years of plot establishment. Growth and mortality were converted to an annual basis.

3. Statistics on timber utilization during 1979 were obtained from mill surveys. The South Dakota Department of Wildlife, Parks, and Forestry (SDDWPF) canvassed resident sawmills and other primary wood-using plants. The North Central Forest Experiment Station canvassed out-of-State primary wood-using mills such as sawmills and veneer mills to determine their use of timber from South Dakota. The SDDWPF canvassed 1,343 randomly selected households to estimate 1979 fuelwood and post production from roundwood. Estimates of primary mill residue used for fuelwood were obtained from the canvass of South Dakota primary wood-using plants. Timber cut for products by ownership class was determined by a canvass of public and industrial timber owners. The portion of timber cut unaccounted for by the latter owners was grouped under "farmer and other owners".

4. Wood utilization factors for converting timber products output to timber removals for saw logs were obtained during the 1975-1976 Minnesota utilization study. Factors for fuelwood and posts were obtained during the 1964 South Dakota utilization study.

5. Field data were sent to St. Paul, Minnesota for processing and analysis.

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[3] *Belcher, David M.; Holdaway, Margaret R.; Brand, Gary J. A description of STEMS—the stand and tree evaluation and modeling system. Gen. Tech. Rep. NC-79. St. Paul, MN. U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station; 1982. 18 p.*

COMPARING EASTERN SOUTH DAKOTA'S THIRD SURVEY WITH THE SECOND SURVEY

Data from new forest surveys are often compared with data from earlier ones to determine trends in forest areas and volumes. Changes in procedures and definitions between surveys make it necessary to adjust earlier survey data so they are comparable to data from the new survey.

The published 1965 area of commercial forest land, 222,900 acres, was adjusted due to some definitional changes between surveys. Some land now defined as wooded pasture was defined as commercial forest land in 1965. Also, new site productivity curves for ponderosa pine caused some land previously classified as commercial to be classified as unproductive forest land in the current survey. The adjusted 1965 area, 165,400 acres, can be compared directly with the 1980 area (113,600 acres).

The Timber Resource Analysis System (a USDA Forest Service computer program for updating, backdating, and projecting timber volume, growth, mortality, and removals) recalculated 1965 volumes using 1980 estimates of cubic foot volume per tree and 1980 board foot-cubic foot ratios. This volume adjustment was necessary so that volume differences between surveys represented actual change and not merely change in the volume equations used on each occasion.

LOG GRADE

In eastern South Dakota the butt log of every sawtimber tree was graded for quality. Logs were graded on the basis of external characteristics. Hardwood species were graded according to "Hardwood Log Grades for Standard Lumber."[4] The best 12-foot section of the lowest 16-foot hardwood log, or the best 12-foot upper section if the butt log did not meet minimum log-grade standards, was graded as follows:

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[4] *Vaughn, C.L.; Wollin, C.A.; McDonald, K.A.; Bulgrin, E.H. Hardwood log grades for standard lumber. Res. Pap FPL-63, Madison, WI: U.S. Department of Agriculture, Forest Service, Forest Products Laboratory; 1966. 52 p.*

Forest Service standard grades for hardwood factory saw logs

Grading factors		Specifications							
		Log grade 1				Log grade 2			Log grade 3
Position in tree		Butts only	Butts and uppers			Butts and uppers			Butts and uppers
Scaling diameter, inches		[1]13-15	16-19	20+	[2]11+	12+			8+
Length without trim, feet			10+		10+	8-9	10-11	12+	8+
Required clear cuttings[3] of each of three best faces[4]	Min. length, feet	7	5	3	3	3	3	3	2
	Max. number	2	2	2	2	2	2	3	No Limit
	Min. proportion of log length required in clear cutting	5/6	5/6	5/6	2/3	3/4	2/3	2/3	1/2
Maximum sweep and crook allowance	For logs with less than one-fourth of end in sound defects		15 percent			30 percent			50 percent
	For logs with more than one-fourth of end in sound defects		10 percent			20 percent			35 percent
Maximum scaling deduction			40 percent[5]			50 percent[6]			50 percent

[1]Ash and basswood butts can be 12 inches if they otherwise meet requirements for small #1's.
[2]Ten-inch logs of all species can be #2's if they otherwise meet requirements for small #1's.
[3]A clear cutting is a portion of a face, extending the width of the face, that is free of defects.
[4]A face is one-fourth of the surface of the log as divided lengthwise.
[5]Otherwise #1 logs with 41-60 percent deductions can be #2.
[6]Otherwise #2 logs with 51-60 percent deductions can be #3.

Forest Service standard specifications for hardwood construction logs (tie and timber logs)

Position in tree		Butt and upper
Min. diameter, small end		8 inches +
Min. length, without trim		8 feet
Clear cuttings		No requirements.
Sweep allowance, absolute		One-fourth of the diameter at the small end for each 8 feet of length.
Sound surface defects	Single knots	Any number, if no one knot has an average diameter above the callus in excess of one-third of the log diameter at point of occurrence.
	Whorled knots	Any number if sum of knot diameters above the callus does not exceed one-third of the log diameter at point of occurrence.
	Holes	Any number provided none has a diameter over one-third of the log diameter at point of occurrence, and none extends more than 3 inches into included timber.[2]
Unsound surface defects		Same requirements as for sound defects if they extend into included timber.[2] No limit if they do not.
End defects	Sound	No requirements.
	Unsound	None allowed; log must be sound internally, but will admit one shake not to exceed one-fourth the scaling diameter and will admit a longitudinal split not extending more than 5 inches into the contained timber.

[1]These specifications are minimum for the class. If, from a group of logs, factory logs are selected first, thus leaving only non-factory logs from which to select construction logs, then the quality range of the construction logs so selected is limited, and the class may be considered a grade. If selection of construction logs is given first priority, then it may be necessary to subdivide the class into grades.

[2]Included timber is always square, and dimension is judged from small end.

Softwood species were graded according to the following specifications:

LOG GRADES FOR SOFTWOOD LOGS

Grade 1

1. Logs must be 16 inches or larger, 10 feet or longer, and with deduction for defect not over 30 percent of gross scale.
2. Logs must be at least 75 percent clear on each of three faces.
3. All knots outside clear cutting must be sound and not over 2-½ inches in diameter.

Grade 2

1. Logs must be 12 inches or larger, 10 feet or longer, and with a net scale after deduction for defect of at least 50 percent of the gross contents of the log.
2. Logs must be at least 50 percent clear on each of three faces or 75 percent clear on two faces.

Grade 3

Logs must be 6 inches or larger, 8 feet or longer, and with a net scale after deduction for defect of at least 50 percent of the gross contents of the log.

Note: (A) Diameters are diameter inside bark at small end of log.
(B) Percent clear refers to percent clear in one continuous section.

PRINCIPAL TREE SPECIES GROUPS IN EASTERN SOUTH DAKOTA[5]

SOFTWOODS
- Ponderosa pine ..... *Pinus ponderosa*
- Juniper
  - Rocky Mountain juniper ..... *Juniperus scopulorum*
  - Eastern redcedar ..... *Juniperus virginiana*

HARDWOODS
- Oak
  - Bur oak ..... *Quercus macrocarpa*
- Basswood
  - American basswood ..... *Tilia americana*
- Soft maple
  - Silver maple ..... *Acer saccharinum*
- Elm
  - American elm ..... *Ulmus americana*
  - Siberian elm ..... *Ulmus pumila*
  - Slippery elm ..... *Ulmus rubra*
  - Rock elm ..... *Ulmus thomasii*
- Ash
  - Green ash ..... *Fraxinus pennsylvanica*
- Cottonwood
  - Eastern cottonwood ..... *Populus deltoides*
  - Plains cottonwood ..... *Populus deltoides* var. *occidentalis*
- Willow
  - Black willow ..... *Salix nigra*
- Hackberry ..... *Celtis occidentalis*
- Other hardwoods
  - Black walnut ..... *Juglans nigra*
  - Boxelder ..... *Acer negundo*
  - Honey locust ..... *Gleditsia triacanthos*
  - Red mulburry ..... *Morus rubra*

[5]*The common and scientific names are based on: Little, Elbert L., Jr. Checklist of United States Trees (Native and Naturalized. Agric. Handb. 541. Washington, D.C.: U.S. Department of Agriculture; 1979. 375 p.*

METRIC EQUIVALENTS OF UNITS USED IN THIS REPORT

1 acre = 4,046.86 square meters or 0.405 hectare.
1,000 acres = 405 hectares.
1 cubic foot = 0.0283 cubic meter.
1 foot = 30.48 centimeters or 0.3048 meter.
1 inch = 25.4 millimeters, 2.54 centimeters, or 0.0254 meter.

DEFINITION OF TERMS

Acceptable trees.—Growing-stock trees of commercial species that meet specified standards of size and quality but do not qualify as desirable trees.

Area-condition classes.—*Class 10.*—Areas fully stocked with desirable trees but not overstocked.

Class 20.—Areas fully stocked with desirable trees but overstocked with all live trees.

Class 30.—Areas medium to fully stocked with desirable trees and with less than 30 percent of the area controlled by other trees and/or inhibiting vegetation or surface conditions that will prevent occupancy by desirable trees.

Class 40.—Areas medium to fully stocked with desirable trees and with 30 percent or more of the area controlled by other trees and/or conditions that ordinarily prevent occupancy by desirable trees.

Class 50.—Areas poorly stocked with desirable trees but fully stocked with growing-stock trees.

Class 60.—Areas poorly stocked with desirable trees but with medium to full stocking of growing-stock trees.

Class 70.—Areas poorly stocked with desirable trees and poorly stocked with growing-stock trees.

Basal area.—The area in square feet of the cross section at breast height of a single tree. When the basal area of all trees in a stand are summed, the result is usually expressed as square feet of basal area per acre.

Biomass.—The above-ground mass of all live trees (including bark and foliage). Biomass is made up of 5 components:

Growing-stock bole.—Biomass of a growing-stock tree from a 1-foot stump to a variable 4-inch top.

Growing-stock tops and limbs.—Biomass of a growing-stock tree from a 1-foot stump minus the growing-stock bole.

Cull bole.—Biomass of a cull tree from a 1-foot stump to a variable 4-inch top.

Cull tops and limbs.—Biomass of a cull tree from a 1-inch stump minus the cull bole.

1- to 5-inch trees.—Biomass of all live trees 1- to 5-inches in diameter at breast height.

Commercial forest land.—Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization. (Note: Areas qualifying as commercial forest land have the capability of producing in excess of 20 cubic feet per acre per year of annual growth under management. Currently inaccessible and inoperable areas are included, except when the areas involved are small and unlikely to become suitable for production of industrial wood in the foreseeable future.) Also see definition of pastured commercial forest land.

Commercial species.—Tree species presently or prospectively suitable for industrial wood products. (Note: Excludes species of typically small size, poor form, or inferior quality such as hophornbeam and hawthorn.)

County and municipal land.—Land owned by counties and local public agencies or municipalities, or land leased to these governmental units for 50 years or more.

Cropland.—Land under cultivation within the past 24 months, including cropland harvested, crop failures, cultivated summer fallow, idle cropland used only for pasture, orchards, and land in soil improvement crops, but excluding land cultivated in developing improved pasture.

Cull.—Portions of a tree that are unusable for industrial wood products, because of rot, poor form, or other defect.

Desirable trees.—Growing-stock trees having no serious defects in quality limiting present or prospective use, and of relatively high vigor, and containing no pathogens that may kill or seriously deteriorate before rotation age. These trees would be favored by forest managers in silvicultural operations.

Diameter classes.—A classification of trees based on diameter outside bark, measured at breast height (4-½ feet above the ground). (Note: D.b.h. is the common abbreviation for diameter at breast height. Two-inch diameter classes are commonly used in Forest Survey, with the even inch the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h. inclusive.)

Farm.—Any land from which $1,000 or more of agricultural products were produced and sold during the year.

Farmer-owned land.—Land owned by operators of farms. (Note: Excludes land leased by farm operators from nonfarm owners, such as railroad companies and States.)

Forest land.—Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use. (Note: Stocking is measured by comparison of basal area and/or number of trees, by age or size and spacing with specified standards). The minimum area for classification of forest land is 1 acre. Roadside, streamside, and shelterbelt strips of timber must have a crown width at least 120 feet wide to qualify as forest land. Unimproved roads and trails, streams, or other bodies of water or clearings in forest areas shall be classed as forest if less than 120 feet wide. Also see definitions of land area, commercial forest land, noncommercial forest land, productive-reserved forest land, stocking, unproductive forest land, nonforest land, and water.

Forest industry land.—Land owned by companies or individuals operating primary wood-using plants.

Forest trees.—Woody plants having a well developed stem and usually more than 12 feet in height at maturity.

Forest types.—A classification of forest land based upon the species forming a plurality of live tree stocking. Major forest types in Eastern South Dakota are:

Ponderosa pine.—Forests in which ponderosa pine comprises a plurality of the stocking.

Oak.—Forests in which bur oak comprises a plurality of the stocking. (Common associates include ash, basswood and elm.)

Plains hardwoods.—Forests in which black walnut, hackberry, and bur oak, singly or in combination, comprise a plurality of the stocking. Commonly found on slopes and uplands. Juniper is a common associate.

Elm-ash.—Forests in which elm, ash, cottonwood, and willow, singly or in combination, comprise a plurality of the stocking, except for those in which

cottonwood comprises a majority of the stocking. Found on first or second bottoms of major streams.

Cottonwood.—Forests in which cottonwood comprises a majority of the stocking.

Gross area.—The entire area of land and water as determined by the Bureau of the Census, 1980.

Growing-stock trees.—Live trees of commercial species qualifying as desirable and acceptable trees. (Note: Excludes rough and rotten trees.)

Growing-stock volume.—Net volume in cubic feet of growing-stock trees 5.0 inches d.b.h. and over, from a 1-foot stump to a minimum 4.0 inch top diameter outside bark of the central stem, or to the point where the central stem breaks into limbs. Cubic feet can be converted to cords by dividing by 79 cubic feet per solid wood cord.

Hardwoods.—Dicotyledonous trees, usually broad-leaved and deciduous.

Idle farmland.—Includes former cropland, orchards, improved pastures, and farm sites not tended within the past 2 years and presently less than 16.7 percent stocked with trees.

Improved pasture.—Land currently improved for grazing by domestic livestock by cultivation, seeding, irrigation, or clearing of trees or brush, and less than 16.7 percent stocked with live trees. This includes areas classified as range by the USDA Soil Conservation Service.

Indian land.—Tribal land held in fee but administered by the Federal Government.

Land area.—A. *Bureau of the Census.*—The area of dry land and land temporarily or partly covered by water, such as marshes, swamps, and river flood plains (omitting tidal flats below mean high tide); streams, sloughs, estuaries, and canals less than ⅛ of a statute mile in width; and lakes, reservoirs, and ponds less than 40 acres in area.

B. *Forest Inventory and Analysis.*—The same as the Bureau of the Census, except minimum width of streams, etc. is 120 feet and minimum size of lakes, etc. is 1 acre.

Live trees.—Growing-stock, rough, and rotten trees 1 inch d.b.h. and larger.

Log grades.—A classification of logs based on external characteristics as indicators of quality or value. (See Appendix for specific grading factors used.)

Logging residues.—The unused growing-stock portions of trees cut or killed by logging.

Maintained road.—Any road, that is plowed or graded at least once a year. Includes rights of way that are cut or treated to limit herbaceous growth.

Marsh.—Nonforest land that characteristically supports low, generally herbaceous or shrubby vegetation intermittently covered with water.

Merchantable.—Refers to a pulpwood or saw log section that meets pulpwood or saw log specifications, respectively.

Miscellaneous federal land.—Federal land other than National Forest, land administered by the Bureau of Land Management, and Indian land.

Miscellaneous private lands.—Privately owned land other than that owned by forest-industry or farmers.

Mortality.—The annual volume of sound wood in growing-stock and sawtimber trees that die.

National forest land.—Federal land that has been legally designated as National Forests or purchase units, and other land under the administration of the USDA Forest Service.

Net annual growth of growing-stock.—The annual change in volume of sound wood in livesawtimber and poletimber trees and the total volume of trees entering these classes through ingrowth, less volume losses resulting from natural causes.

Net annual growth of sawtimber.—The annual change in the volume of live sawtimber trees and the total volume of trees reaching sawtimber size, less volume losses resulting from natural causes.

Net volume.—Gross volume less deductions for rot, sweep, or other defect affecting use for timber products.

Noncommercial forest land.—Unproductive forest land and productive-reserved forest land. See definitions of unproductive and productive-reserved forest land.

Noncommercial species.—Tree species of typically small size, poor form, or inferior quality that normally do not develop into trees suitable for industrial wood products.

Nonforest land.—Land that has never supported forests, and land formerly forested where use for timber management is precluded by development for other uses. (Note: Includes areas used for crops, improved pasture, residential areas, city parks, improved roads of any width and adjoining clearings, powerline clearings of any width, and 1- to 40-acre areas of water classified by the Bureau of the Census as land. If intermingled in forest areas, unimproved roads and nonforest strips must be more than 120 feet wide, and more than 1 acre in size, to qualify as nonforest land.)

A. *Nonforest land without trees.*—Nonforest land with no live trees present.

B. *Nonforest land with trees.*—Nonforest land with one or more trees at least 5 inches in d.b.h. per acre.

Nonstocked land.—Commercial forest land less than 16.7 percent stocked with growing-stock trees.

Other removals.—Growing-stock trees removed but not utilized for products, or trees left standing but "removed" from the commercial forest land classification by land use change. Examples are removals from cultural operations such as timber stand improvement work, land clearing, and changes in land use.

Ownership.—Property owned by one owner, regardless of the number of parcels in a specified area.

Ownership size class.—The amount of commercial forest land owned by one owner, regardless of the number or parcels.

Owner tenure.—The length of time a property has been held by the owner.

Pastured commercial forest land.— Commercial forest land presently used for grazing but for which the primary use is wood production.

Physiographic class.—A measure of soil and water conditions that affect tree growth on a site. Physiographic classes used in Forest Inventory and Analysis inventories are:

Xeric sites.—very dry soils where excessive drainage seriously limits both growth and species occurrence.

Xeromesic sites.—Moderately dry soils where excessive drainage limits growth and species occurrence to some extent. Example: dry oak ridge.

Mesic sites.—Deep, well-drained soils. Growth and species occurrence are limited only by climate.

Hydromesic sites.—Moderately wet soils where insufficient drainage or infrequent flooding limits growth and species occurrence to some extent. Example: better drained bottomland hardwood sites.

Hydric sites.—Very wet sites where excess water seriously limits both growth and species occurrence. Example: wet, frequently flooded river bottoms.

Plant byproducts.—Plant residues used for products such as mulch, pulp chips, and fuelwood.

Plant residues.—Wood and bark materials generated at manufacturing plants during production of other products.

Poletimber stands.—(See stand-size class.)

Poletimber trees.—Growing-stock trees of commercial species at least 5.0 inches in d.b.h., but smaller than sawtimber size.

Productive-reserved forest land.—Forest land sufficiently productive to qualify as commercial forest land, but withdrawn from timber utilization through statute, administrative regulation, designation, or exclusive use for Christmas-tree production, as indicated by annual shearing.

Pulpwood.—Roundwood, chips from roundwood, and wood residue used to manufacture pulp and to produce flakeboard products such as particleboard, waferboard, and oriented strand board.

Rotten trees.—Live trees of commercial species that do not contain at least one 12-foot saw log or two saw logs 8 feet or longer, now or prospectively because they do not meet Regional specifications for freedom from defect primarily because of rot; that is, when more than 50 percent of the cull volume in a tree is rotten.

Rough trees.—(a) Live trees of commercial species that do not contain at least one merchantable 12-foot saw log or two saw logs 8 feet or longer, now or prospectively because they do not meet Regional specifications for freedom from defect primarily due to roughness or poor form, and (b) all live trees of noncommercial species.

Roundwood products.—Logs, bolts, or other round sections (including chips from roundwood) cut from trees for industrial or consumer uses. (Note: Includes saw logs; veneer logs and bolts; cooperage logs and bolts; pulpwood; fuelwood; piling; poles; posts; hewn ties; mine timbers; and various other round, split, or hewn products.)

Salvable dead trees.—Standing or down dead trees considered merchantable by Regional standards.

Saplings.—Live trees 1.0 inch to 5.0 inches in d.b.h.

Sapling-seedling stands.—(See stand-size class.)

Saw log.—A log meeting minimum standards of diameter, length and defect, including logs at least 8 feet long, sound and straight and with a minimum diameter outside bark (d.o.b.) for softwoods of 7 inches (9 inches for hardwoods) or other combinations of size and defect specified by Regional standards.

Saw log portion.—That part of the bole of sawtimber trees between the stump and the saw log top.

Saw log top.—The point on the bole of sawtimber trees above which a saw log cannot be produced. The minimum saw log top is 7.0 inches d.o.b. for softwoods and 9.0 inches d.o.b. for hardwoods.

Sawtimber stands.—(See stand-size class.)

Sawtimber trees.—Growing-stock trees of commercial species containing at least a 12-foot saw log or two noncontiguous saw logs 8 feet or longer, and meeting Regional specifications for freedom from defect. Softwoods must be at least 9.0 inches in d.b.h. Hardwoods must be at least 11.0 inches in d.b.h.

Sawtimber volume.—Net volume of the saw log portion of live sawtimber in board feet, International ¼-inch rule, from stump to a minimum 7.0 inches top d.o.b. for softwoods and a minimum 9.0 inches top d.o.b. for hardwoods.

Seedlings.—Live trees less than 1.0 inch in d.b.h. that are expected to survive. Only softwood seedlings

more than 6 inches tall and hardwood seedlings more than 1 foot tall are counted.

Short-log (rough tree).—Live trees of commercial species that contain at least one merchantable 8- to 11-foot saw log but not a 12-foot saw log, now or prospectively.

Shrub biomass.—The total above-ground volume (including the bark) of selected shrubs and trees less than 1-inch d.b.h.

Site classes.—A classification of forest land in terms of inherent capacity to grow crops of industrial wood based on fully stocked natural stands.

Site index.—An expression of forest site quality based on the height of a free-growing dominant or codominant tree of a representative species in the forest type at age 50.

Softwoods.—Coniferous trees, usually evergreen, having needles or scale like leaves.

Stand.—A growth of trees on a minimum of 1 acre of forest land that is stocked by forest trees of any size.

Stand-age class.—Age of the main stand. Main stand refers to trees of the dominant forest type and stand-size class.

Stand-area class.—The extent of a continuous forested area of the same forest type, stand-size class, and stand-density class.

Stand-size class.—A classification of forest land based on the size class of growing-stock trees on the area; that is, sawtimber, poletimber or seedlings and saplings.

A. *Sawtimber stands.*—Stands at least 16.7 percent stocked with growing-stock trees, with half or more of total stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

B. *Poletimber stands.*—Stands at least 16.7 percent stocked with growing-stock trees of which half or more of this stocking is in poletimber and/or sawtimber trees, and with poletimber stocking exceeding that of sawtimber.

C. *Sapling-seedling stands.*—Stands at least 16.7 percent stocked with growing-stock trees of which more than half of the stocking is saplings and/or seedlings.

D. *Nonstocked stands.*—Stands in which stocking of growing-stock trees is less than 16.7 percent.

State land.—Land owned by states, or land leased to these governmental units for 50 years or more.

Stocking.—The degree of occupancy of land by trees, measured by basal area and/or the number of trees in a stand by size or age and spacing, compared to the basal area and/or number of trees required to fully utilize the growth potential of the land; that is, the stocking standard.

A stocking percent of 100 indicates full utilization of the site and is equivalent to 80 square feet of basal area per acre in trees 5 inches d.b.h. and larger. In a stand of trees less than 5 inches d.b.h., a stocking percent of 100 would indicate that the present number of trees is sufficient to produce 80 square feet of basal area per acre when the trees reach 5 inches d.b.h.

Stands are grouped into the following stocking classes:

Overstocked stands.—Stands in which stocking of trees is 134.0 percent or more.

Fully stocked stands.—Stands in which stocking of trees is from 101.0 to 133.9 percent.

Medium stocked stands.—Stands in which stocking of trees is from 61.0 to 100.9 percent.

Poorly stocked stands.—Stands in which stocking of trees is from 16.7 to 60.9 percent.

Nonstocked areas.—Commercial forest land on which stocking of trees is less than 16.7 percent.

Timber removals from growing stock.—The volume of sound wood in growing-stock trees removed annually for forest products (including roundwood products and logging residues) and for other removals.

Timber removals from sawtimber.—The net board-foot volume of live sawtimber trees removed for forest products annually (including roundwood products and logging residues) and for other removals.

Timber products output.—All timber products cut from roundwood and byproducts of wood manufacturing plants. Roundwood products include logs, bolts, or other round sections cut from growing-stock trees, cull trees, salvable dead trees, trees on nonforest land, noncommercial species, sapling-size trees, and limbwood. Byproducts from primary manufacturing plants include slabs, edgings, trimmings, miscuts, sawdust, shavings, veneer cores and clippings, and screenings of pulpmills that are used as pulpwood chips or other products.

Unproductive forest land.—Forest land incapable of producing 20 cubic feet per acre of annual growth or of yielding crops of industrial wood under natural conditions because of adverse site conditions. (Note: Adverse conditions include shallow soils, dry climate, poor drainage, high elevation, steepness, and rockiness.)

Upper stem portion.—That part of the bole of sawtimber trees above the saw log top to a minimum top diameter of 4.0 inches outside bark or to the point where the central stem breaks into limbs.

Urban and other areas.—Areas within the legal boundaries of cities and towns; suburban areas developed for residential, industrial, or recreational

purposes; schoolyards; cemeteries; roads; railroads; airports; beaches; powerlines and other rights-of-way; or other nonforest land not included in any other specified land-use class.

Water.—(a)*Bureau of the Census.*—Streams, sloughs, estuaries, and canals more than ⅛ of a statute mile in width; and lakes, reservoirs, and ponds more than 40 acres in area.

(b)*Noncensus.*—The same as the Bureau of the Census, except minimum width of streams, etc. is 120 feet and minimum size of lakes, etc. is 1 acre.

Windbreak.—A group of trees less than 120 feet wide used for protecting soil, cropfields, and buildings in use.

Wooded pasture.—Improved pasture with more than 16.7 percent stocking in live trees, but less than 25 percent stocking in growing-stock trees. Area is currently improved for grazing or there is other evidence of grazing. (Nonforest land with trees).

Wooded strips.—An acre or more of natural continuous forest land that would otherwise meet survey standards for commercial forest land except that it is less than 120 feet wide. (Nonforest land with trees).

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Table 69.—Sampling errors for estimates other than State totals of volume, net growth, and removals and of area of commercial forest land

Table 1.--Area of land by land class, Eastern South Dakota, 1965 and 1980[1/]

(In thousand acres)

Land class	1965	1980
Forest land:		
Commercial forest land		
Ponderosa pine	24.1	17.8
Oak	7.4	4.5
Elm-ash	62.1	45.4
Cottonwood	42.0	18.5
Plains hardwoods	22.0	13.0
Nonstocked	7.8	14.4
Subtotal	165.4	113.6
Noncommercial forest land		
Unproductive	125.2	147.4
Productive-reserved	--	5.3
Subtotal	125.2	152.7
Total	290.6	266.3
Nonforest land	41,712.5	41,441.9
Total land	42,003.1[2/]	41,708.2[3/]
Census water	405.5[2/]	727.0[3/]
Gross area	42,407.6[2/]	42,435.2[3/]

[1/] Tables may not add to total due to rounding.

[2/] 1960 Bureau of the Census.

[3/] 1980 Bureau of the Census.

Table 2.--Area of land and forest land by county, Eastern South Dakota, 1980[1/]

County	Land area[2/]	Forest land				Nonforest land with trees			
		All forest	Non-commercial	Commercial	Percent commercial forest	All nonforest with trees	Wooded strips and windbreaks	Other nonforest with trees	Percent nonforest with trees
	Thousand acres				Percent	Thousand acres			Percent
Aurora	452.3	0.8	0.5	0.3	0.1	9.6	4.9	4.7	2.1
Beadle	805.5	2.5	1.4	1.1	0.1	6.8	4.7	2.1	0.8
Bennet	756.3	5.9	3.7	2.2	0.3	19.4	6.4	13.0	2.6
Bon Homme	353.3	6.4	2.9	3.5	1.0	10.3	5.4	4.9	2.9
Brookings	509.0	2.6	1.2	1.4	0.3	6.8	3.9	2.9	1.3
Brown	1,102.1	4.9	2.3	2.6	0.2	15.0	8.6	6.4	1.4
Brule	521.4	1.4	0.8	0.6	0.1	13.5	6.3	7.2	2.6
Buffalo	304.3	1.1	0.6	0.5	0.2	3.6	1.8	1.8	1.2
Campbell	468.2	0.4	0.2	0.2	--	3.9	3.8	0.1	0.8
Charles Mix	697.5	7.4	3.5	3.9	0.6	22.5	11.5	11.0	3.2
Clark	609.7	0.9	0.5	0.4	0.1	4.6	2.5	2.1	0.8
Clay	261.5	1.2	0.5	0.7	0.3	3.0	1.7	1.3	1.1
Codington	444.5	1.9	0.8	1.1	0.2	1.4	0.9	0.5	0.3
Corson[3/]	1,578.7	7.9	3.4	4.5	0.3	16.8	8.9	7.9	1.1
Custer[3/]	113.3	0.9	0.4	0.5	0.4	1.3	0.8	0.5	1.1
Davison	278.9	1.1	0.5	0.6	0.2	4.3	2.5	1.8	1.5
Day	654.0	2.8	1.2	1.6	0.2	1.7	1.0	0.7	0.3
Deuel	403.8	1.1	0.5	0.6	0.1	1.6	1.0	0.6	0.4
Dewey	1,478.2	3.9	1.9	2.0	0.1	10.6	5.5	5.1	0.7
Douglas	277.6	0.1	0.1	--	--	1.8	0.9	0.9	0.6
Edmunds	735.6	--	--	--	--	--	--	--	--
Faulk	642.3	--	--	--	--	--	--	--	--
Grant	436.1	3.8	1.6	2.2	0.5	14.2	7.4	6.8	3.3
Gregory	648.6	20.5	13.5	7.0	1.1	40.8	20.9	19.9	6.3
Haakon	1,166.4	4.3	2.2	2.1	0.2	21.6	8.1	13.5	1.9
Hamlin	327.9	1.3	0.6	0.7	0.2	3.3	1.9	1.4	1.0
Hand	919.4	0.3	0.2	0.1	--	7.1	3.7	3.4	0.8
Hanson	277.4	0.6	0.3	0.3	0.1	2.5	1.3	1.2	0.9
Hughes	484.2	1.2	0.6	0.6	0.1	6.8	3.7	3.1	1.4
Hutchinson	522.1	1.4	0.7	0.7	0.1	8.6	4.6	4.0	1.6
Hyde	550.5	--	--	--	--	--	--	--	--
Jackson	519.2	1.2	0.7	0.5	0.1	4.0	1.9	2.1	0.8
Jerauld	339.3	0.6	0.3	0.3	0.1	2.2	1.2	1.0	0.6
Jones	621.5	2.1	1.2	0.9	0.1	9.1	4.4	4.7	1.5
Kingsbury	527.2	1.5	0.8	0.7	0.1	8.6	4.6	4.0	1.6
Lake	358.3	1.1	0.6	0.5	0.1	6.4	2.8	3.6	1.8
Lincoln	369.8	2.6	1.2	1.4	0.4	5.7	3.0	2.7	1.5
Lyman	1,074.5	3.8	1.9	1.9	0.2	10.6	5.1	5.5	1.0
Marshall	542.6	4.3	1.9	2.4	0.4	20.6	10.8	9.8	3.8
McCook	368.4	1.8	0.9	0.9	0.2	7.0	3.6	3.4	1.9
McPherson	734.8	0.1	0.1	--	--	3.4	1.8	1.6	0.5

(Table 2 continued on next page)

(Table 2 continued)

County	Land area[2/]	Forest land				Nonforest land with trees			
		All forest	Non-commercial	Commercial	Percent commercial forest	All nonforest with trees	Wooded strips and windbreaks	Other nonforest with trees	Percent nonforest with trees
	Thousand acres				Percent	Thousand acres			Percent
Meade[3/]	1,668.0	16.7	12.8	3.9	0.2	15.8	6.6	9.2	0.9
Mellette	838.9	10.4	5.7	4.7	0.6	24.3	11.6	12.7	2.9
Miner	364.7	--	--	--	--	--	--	--	--
Minnehaha	518.1	1.6	0.6	1.0	0.2	1.4	0.9	0.5	0.3
Moody	333.0	2.2	1.0	1.2	0.4	3.4	1.8	1.6	1.0
Pennington[3/]	1,104.4	4.1	3.2	0.9	0.1	13.0	6.6	6.4	1.2
Perkins	1,846.0	2.9	1.6	1.3	0.1	18.1	9.4	8.7	1.0
Potter	556.1	0.1	--	0.1	--	--	--	--	--
Roberts	705.5	10.2	4.7	5.5	0.8	8.3	4.7	3.6	1.2
Sanborn	364.0	0.8	0.4	0.4	0.1	4.2	2.2	2.0	1.2
Shannon	1,340.0	59.6	39.5	20.1	1.5	47.7	12.7	35.0	3.6
Spink	963.4	2.1	0.9	1.2	0.1	10.3	6.2	4.1	1.1
Stanley	916.1	1.4	0.6	0.8	0.1	5.5	1.9	3.6	0.6
Sully	621.9	--	--	--	--	0.1	--	0.1	--
Todd	888.3	22.5	13.9	8.6	1.0	28.4	8.7	19.7	3.2
Tripp	1,035.6	3.9	2.0	1.9	0.2	11.5	5.3	6.2	1.1
Turner	394.8	1.6	0.7	0.9	0.2	3.8	1.7	2.1	1.0
Union	290.1	4.5	2.2	2.3	0.8	13.8	6.8	7.0	4.8
Walworth	452.3	--	--	--	--	--	--	--	--
Washabaugh	679.0	5.5	3.0	2.5	0.4	19.5	9.9	9.6	2.9
Yankton	331.4	6.0	2.5	3.5	1.1	13.1	7.5	5.6	4.0
Ziebach	1,260.4	2.5	1.2	1.3	0.1	17.9	9.5	8.4	1.4
All counties	41,708.2	266.3	152.7	113.6	0.3	601.1	287.8	313.3	1.4

[1/] Tables may not add to total due to rounding.

[2/] 1980 Bureau of Census estimates. Includes: forest, nonforest with trees, and nonforest without trees.

[3/] Only the portions of these counties east of the 103rd meridian are included in the area surveyed by the North Central Forest Experiment Station.

Table 3.--Area of commercial forest land by ownership class and forest type, Eastern South Dakota, 1980[1/]

(In thousand acres)

Ownership class	All types	Forest type					
		Ponderosa pine	Oak	Elm-ash	Cottonwood	Plains hardwoods	Nonstocked
Federal	1.3	--	--	1.3	--	--	--
Indian	39.0	17.8	1.3	15.4	1.3	--	3.0
State	3.5	--	--	--	--	1.7	1.8
County and municipal	3.3	--	--	--	1.7	1.7	--
Farmer	64.9	--	3.2	27.0	15.5	9.6	9.5
Miscellaneous private	1.7	--	--	1.7	--	--	--
All owners	113.6	17.8	4.5	45.5	18.5	13.0	14.4

[1/]Tables may not add to total due to rounding.

Table 4.--Area of commercial forest land by ownership class and site class, Eastern South Dakota, 1980[1/]

(In thousand acres)

Ownership class	All classes	Site class (cubic feet of growth/acre/year)					
		225+	165-225	120-165	85-120	50-85	20-50
Federal	1.3	--	--	--	--	--	1.3
Indian	39.0	--	--	--	--	4.6	34.4
State	3.5	--	--	--	--	--	3.5
County and municipal	3.3	--	--	--	--	--	3.3
Farmer	64.9	--	--	--	1.3	12.6	50.9
Miscellaneous private	1.7	--	--	--	--	--	1.7
All owners	113.6	--	--	--	1.3	17.2	95.1

[1/]Tables may not add to total due to rounding.

Table 5.--Area of commercial forest land by ownership class and ownership size class, Eastern South Dakota, 1980[1/]

(In thousand acres)

Ownership class	All classes	Ownership size class (acres)			
		100-500	500-2,500	2,500-5,000	5,000+
Federal	1.3	--	--	--	1.3
Indian	39.0	--	--	--	39.0
State	3.5	--	--	--	3.5
County and municipal	3.3	--	--	--	3.3
Farmer	64.9	5.6	1.7	--	--
Miscellaneous private	1.7	--	1.7	--	--
All owners	113.6	5.6	3.3	--	47.1

[1/]Tables may not add to total due to rounding.

Table 6.--Area of commercial forest land by ownership class and stand-size class, Eastern South Dakota, 1980[1/]

(In thousand acres)

Ownership class	All stands	Stand-size class			
		Sawtimber stands	Poletimber stands	Sapling and seedling stands	Nonstocked areas
Federal	1.3	--	--	1.3	--
Indian	39.0	16.6	11.1	8.3	3.0
State	3.5	1.7	--	--	1.8
County and municipal	3.3	1.7	--	1.7	--
Farmer	64.9	27.9	13.4	14.1	9.5
Miscellaneous private	1.7	--	1.7	--	--
All owners	113.6	47.7	26.2	25.4	14.4

[1/]Tables may not add to total due to rounding.

Table 7.--Area of commercial forest land by ownership class and area-condition class, Eastern South Dakota, 1980[1/]

(In thousand acres)

Ownership class	All classes	Area-condition class			
		70	60	50	40 or better
Federal	1.3	--	--	1.3	--
Indian	39.0	28.2	6.4	4.5	--
State	3.5	3.5	--	--	--
County and municipal	3.3	1.7	--	1.7	--
Farmer	64.9	44.9	17.2	2.8	--
Miscellaneous private	1.7	1.7	--	--	--
All owners	113.6	79.8	23.5	10.3	--

[1/]Tables may not add to total due to rounding.

Table 8.--Area of commercial forest land by ownership class and stand-volume class, Eastern South Dakota, 1980[1/]

(In thousand acres)

Ownership class	All classes	Stand-volume class (board feet[2/] per acre)		
		Less than 1,500	1,500-5,000	5,000+
Federal	1.3	1.3	--	--
Indian	39.0	23.5	13.9	1.6
State	3.5	3.5	--	--
County and municipal	3.3	1.7	--	1.7
Farmer	64.9	46.5	13.9	4.5
Miscellaneous private	1.7	1.7	--	--
All owners	113.6	78.2	27.7	7.8

[1/]Tables may not add to rounding.

[2/]International 1/4-inch rule.

Table 9.--Area of commercial forest land by county and forest type, Eastern South Dakota, 1980[1/]

(In thousand acres)

County	All types	Forest type					
		Ponderosa pine	Oak	Elm-ash	Cottonwood	Plains hardwoods	Nonstocked
Aurora	0.3	--	--	0.1	0.1	--	0.1
Beadle	1.1	--	--	0.5	0.2	0.1	0.2
Bennet	2.2	1.6	--	0.4	0.1	0.1	0.1
Bon Homme	3.5	--	0.2	1.7	0.7	0.5	0.4
Brookings	1.4	--	0.1	0.5	0.4	0.2	0.3
Brown	2.6	--	0.1	0.8	0.7	0.4	0.6
Brule	0.6	--	--	0.2	0.2	0.1	0.2
Buffalo	0.5	--	--	0.2	0.2	0.1	0.1
Campbell	0.2	--	--	0.1	0.1	--	--
Charles Mix	3.9	--	0.2	1.8	0.8	0.6	0.5
Clark	0.4	--	--	0.1	0.2	0.1	0.1
Clay	0.7	--	--	0.3	0.2	0.1	0.1
Codington	1.1	--	--	0.6	0.1	0.3	0.1
Corson[2/]	4.5	--	0.2	2.4	0.8	0.8	0.4
Custer[2/]	0.5	--	--	0.2	0.1	0.1	0.1
Davison	0.6	--	0.1	0.2	0.1	0.1	0.1
Day	1.6	--	0.1	1.0	0.2	0.3	0.1
Deuel	0.6	--	--	0.2	0.2	0.1	0.1
Dewey	2.0	--	0.1	1.0	0.3	0.5	0.2
Douglas	--	--	--	--	--	--	--
Edmunds	--	--	--	--	--	--	--
Faulk	--	--	--	--	--	--	--
Grant	2.2	--	0.1	1.5	0.3	0.2	0.1
Gregory	7.0	--	0.5	2.8	1.4	1.0	1.4
Haakon	2.1	--	0.1	0.4	0.5	0.2	1.0
Hamlin	0.7	--	--	0.3	0.2	0.1	0.1
Hand	0.1	--	--	--	0.1	--	--
Hanson	0.3	--	--	0.1	--	0.1	0.1
Hughes	0.6	--	--	0.2	0.2	0.1	0.1
Hutchinson	0.7	--	0.1	0.3	0.1	0.1	0.1

(Table 9 continued on next page)

(Table 9 continued)

County	All types	Forest type					
		Ponderosa pine	Oak	Elm-ash	Cottonwood	Plains hardwoods	Nonstocked
Hyde	--	--	--	--	--	--	--
Jackson	0.5	--	--	0.1	0.2	0.1	0.1
Jerauld	0.3	--	--	0.2	0.1	--	--
Jones	0.9	--	--	0.2	0.3	0.1	0.2
Kingsbury	0.7	--	--	0.2	0.2	0.1	0.2
Lake	0.5	--	--	0.1	0.1	0.1	0.2
Lincoln	1.4	--	0.1	0.5	0.3	0.2	0.3
Lyman	1.9	--	0.1	0.6	0.6	0.3	0.4
Marshall	2.4	--	0.1	1.7	0.3	0.2	0.1
McCook	0.9	--	0.1	0.3	0.2	0.1	0.2
McPherson	--	--	--	--	--	--	--
Meade[2/]	3.9	0.1	0.2	2.1	0.5	0.7	0.4
Mellette	4.7	0.2	0.2	1.7	1.1	0.5	1.0
Miner	--	--	--	--	--	--	--
Minnehaha	1.0	--	0.1	0.5	0.2	0.1	0.1
Moody	1.2	--	--	0.9	0.1	0.1	0.1
Pennington[2/]	0.9	--	--	0.5	0.2	0.1	0.1
Perkins	1.3	--	--	0.3	0.4	0.2	0.3
Potter	0.1	--	--	0.1	--	--	--
Roberts	5.5	--	0.3	3.5	0.7	0.6	0.4
Sanborn	0.4	--	--	0.2	0.1	0.1	0.1
Shannon	20.1	11.8	0.4	5.1	1.3	0.8	0.7
Spink	1.2	--	--	0.6	0.3	0.2	0.1
Stanley	0.8	--	--	0.3	0.2	0.1	0.1
Sully	--	--	--	--	--	--	--
Todd	8.6	3.9	0.2	2.4	0.7	0.5	0.9
Tripp	1.9	--	0.1	0.9	0.4	0.3	0.3
Turner	0.9	--	0.1	0.3	0.1	0.1	0.3
Union	2.3	--	0.1	1.0	0.5	0.3	0.5
Walworth	--	--	--	--	--	--	--
Washabaugh	2.5	0.4	0.1	1.5	0.2	0.1	0.2
Yankton	3.5	--	0.3	1.5	0.5	0.5	0.6
Ziebach	1.3	--	0.1	0.8	0.2	0.1	0.1
All counties	113.6	17.8	4.5	45.5	18.5	13.0	14.4

[1/] Tables may not add to total due to rounding.

[2/] Only the portions of these counties east of the 103rd meridian are included in the area surveyed by the North Central Forest Experiment Station.

Table 10.--Area of commercial forest land by forest type and stand-age class, Eastern South Dakota, 1980[1/]

(In thousand acres)

Forest type	All classes	Stand-age class (years)												
		1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	140+
Ponderosa pine	17.8	--	--	--	2.2	--	3.1	6.3	3.1	1.6	1.6	--	--	--
Oak	4.5	1.3	--	--	--	--	--	--	1.7	--	--	1.6	--	--
Elm-ash	45.5	12.8	4.3	3.2	3.2	3.3	5.5	1.7	5.5	1.5	--	2.9	1.6	--
Cottonwood	18.5	--	--	--	--	4.4	--	1.7	3.1	1.7	3.0	3.0	1.7	--
Plains hardwoods	13.0	5.3	1.7	--	2.7	--	--	1.7	--	1.7	--	--	--	--
Nonstocked	14.4	6.5	--	1.7	1.7	1.7	1.6	1.3	--	--	--	--	--	--
All types	113.6	25.9	6.0	4.9	9.7	9.4	10.2	12.6	13.5	6.4	4.6	7.4	3.2	--

[1/] Tables may not add to total due to rounding.

Table 11.--Area of commercial forest land by forest type and stand-size class, Eastern South Dakota, 1980[1/]

(In thousand acres)

Forest type	All stands	Stand-size class			
		Sawtimber stands	Poletimber stands	Sapling and seedling stands	Nonstocked areas
Ponderosa pine	17.8	11.0	6.8	--	--
Oak	4.5	3.2	--	1.3	--
Elm-ash	45.5	14.3	14.1	17.1	--
Cottonwood	18.5	15.9	2.6	--	--
Plains hardwoods	13.0	3.3	2.7	7.0	--
Nonstocked	14.4	--	--	--	14.4
All types	113.6	47.7	26.2	25.4	14.4

[1/] Tables may not add to total due to rounding.

Table 12.--Area of commercial forest land by forest type, stand-size class and site class, Eastern South Dakota, 1980[1/]

(In thousand acres)

Forest type and stand-size class	All classes	Site class (cubic feet of growth/acre/year)			
		120+	85-119	50-84	20-49
Ponderosa pine					
Sawtimber	11.0	--	--	1.6	9.4
Poletimber	6.8	--	--	--	6.8
Sapling & seedling	--	--	--	--	--
All stands	17.8	--	--	1.6	16.2
Oak					
Sawtimber	3.2	--	--	1.6	1.7
Poletimber	--	--	--	--	--
Sapling & seedling	1.3	--	--	--	1.3
All stands	4.5	--	--	1.6	3.0
Elm-ash					
Sawtimber	14.3	--	1.3	3.0	9.9
Poletimber	14.1	--	--	1.9	12.2
Sapling & seedling	17.1	--	--	1.7	15.4
All stands	45.5	--	1.3	6.6	37.5
Cottonwood					
Sawtimber	15.9	--	--	3.1	12.7
Poletimber	2.6	--	--	--	2.6
Sapling & seedling	--	--	--	--	--
All stands	18.5	--	--	3.1	15.3
Plains hardwoods					
Sawtimber	3.3	--	--	--	3.3
Poletimber	2.7	--	--	1.3	1.3
Sapling & seedling	7.0	--	--	--	7.0
All stands	13.0	--	--	1.3	11.6
Nonstocked	14.4	--	--	3.0	11.4
All types					
Sawtimber	48.5	--	--	9.3	37.0
Poletimber	26.2	--	1.3	3.2	22.9
Sapling & seedling	25.4	--	--	1.7	23.7
Nonstocked	14.4	--	--	3.0	11.4
All stands	113.6	--	1.3	17.2	95.1

[1/] Tables may not add to total due to rounding.

Table 13.--Area of commercial forest land by forest type, stand-size class, and stocking percent, Eastern South Dakota, 1980[1/]

(In thousand acres)

Forest type and stand-size class	All classes	Stocking percent of growing-stock trees				
		Less than 16.7	16.7-60	61-100	101-133	134+
Ponderosa pine						
Sawtimber	--	--	--	--	--	--
Poletimber	11.0	--	6.3	3.1	1.6	--
Sapling & seedling	6.8	--	3.7	1.6	1.6	--
All stands	17.8	--	10.0	4.7	3.1	--
Oak						
Sawtimber	3.2	--	1.6	1.7	--	--
Poletimber	--	--	--	--	--	--
Sapling & seedling	1.3	--	1.3	--	--	--
All stands	4.5	--	2.9	1.7	--	--
Elm-ash						
Sawtimber	14.3	--	11.4	2.9	--	--
Poletimber	14.1	--	10.5	3.6	--	--
Sapling & seedling	17.1	--	8.3	4.8	4.0	--
All stands	45.5	--	30.2	11.2	4.0	--
Cottonwood						
Sawtimber	15.9	--	9.8	3.0	3.1	--
Poletimber	2.6	--	2.6	--	--	--
Sapling & seedling	--	--	--	--	--	--
All stands	18.5	--	12.3	3.0	3.1	--
Plains hardwoods						
Sawtimber	3.3	--	3.3	--	--	--
Poletimber	2.7	--	1.3	1.3	--	--
Sapling & seedling	7.0	--	5.3	1.7	--	--
All stands	13.0	--	10.0	3.0	--	--
Nonstocked	14.4	14.4	--	--	--	--
All types						
Sawtimber	36.7	--	26.1	7.5	3.1	--
Poletimber	30.3	--	20.7	8.0	1.6	--
Sapling & seedling	32.2	--	18.7	8.0	5.5	--
Nonstocked	99.2	14.4	--	--	--	--
All stands	113.6	14.4	65.4	23.5	10.3	--

[1/] Tables may not add to total due to rounding.

Table 14.--Area of commercial forest land by forest type and site-index class, Eastern South Dakota, 1980[1/]

(In thousand acres)

Forest type	All classes	Site-index class (feet)							
		21-30	31-40	41-50	51-60	61-70	71-80	81-90	91+
Ponderosa pine	17.8	--	8.4	7.8	1.6	--	--	--	--
Oak	4.5	--	1.3	1.7	1.6	--	--	--	--
Elm-ash	45.5	--	5.9	22.9	8.8	4.7	1.9	1.3	--
Cottonwood	18.5	--	--	5.0	10.4	--	3.2	--	--
Plains hardwoods	13.0	2.1	1.6	5.0	3.0	1.3	--	--	--
Nonstocked	14.4	--	2.2	6.8	2.4	3.0	--	--	--
All types	113.6	2.1	19.4	49.1	27.7	9.0	5.1	1.3	--

[1/] Tables may not add to total due to rounding.

Table 15.--Area of commercial forest land by forest type and basal-area class, Eastern South Dakota, 1980[1/]

(In thousand acres)

Forest type	All classes	Basal-area class (square feet per acre)									
		0-20	21-40	41-60	61-80	81-100	101-120	121-140	141-160	161-180	181+
Ponderosa pine	17.8	--	5.3	3.1	3.1	3.1	1.6	1.6	--	--	--
Oak	4.5	--	--	1.3	3.2	--	--	--	--	--	--
Elm-ash	45.5	1.3	8.7	17.2	7.4	6.5	2.7	1.7	--	--	--
Cottonwood	18.5	--	3.3	7.7	2.8	3.3	--	1.3	--	--	--
Plains hardwoods	13.0	--	--	8.3	1.7	3.0	--	--	--	--	--
Nonstocked	14.4	4.3	3.9	4.5	1.7	--	--	--	--	--	--
All types	113.6	5.6	21.2	42.2	19.8	16.0	4.3	4.5	--	--	--

[1/] Tables may not add total due to rounding.

Table 16.--Area of commercial forest land by forest type and distance to road, Eastern South Dakota, 1980[1/]

(In thousand acres)

Forest type	Total	Distance to road (miles)							
		0-1/8	1/8-1/4	1/4-1	1-2 1/2	2 1/2-5	5-10	10-20	20+
Ponderosa pine	17.8	3.7	1.6	4.7	3.2	1.6	--	3.1	--
Oak	4.5	--	2.9	1.7	--	--	--	--	--
Elm-ash	45.5	14.1	11.2	17.2	1.7	1.3	--	--	--
Cottonwood	18.5	3.5	6.5	6.9	1.7	--	--	--	--
Plains hardwoods	13.0	6.2	3.0	3.8	--	--	--	--	--
Nonstocked	14.4	10.1	1.3	2.3	0.6	--	--	--	--
All types	113.6	37.6	26.4	36.5	7.1	2.9	--	3.1	--

[1/] A permanent road that is maintained at least once a year. Tables may not add to total due to rounding.

Table 17.--Area of commercial forest land by forest type and distance to water, Eastern South Dakota, 1980[1/]

(In thousand acres)

Forest type	Total	Distance to water (miles)							
		0-1/8	1/8-1/4	1/4-1	1-2 1/2	2 1/2-5	5-10	10-20	20+
Ponderosa pine	17.8	--	--	3.1	6.3	4.7	2.2	--	1.6
Oak	4.5	--	1.7	1.3	--	--	--	1.6	--
Elm-ash	45.5	14.7	--	6.0	8.6	4.3	5.1	1.5	5.3
Cottonwood	18.5	7.2	1.7	1.3	5.0	1.8	--	1.5	--
Plains hardwoods	13.0	3.2	--	3.0	--	5.1	--	--	1.7
Nonstocked	14.4	5.2	--	1.7	4.1	--	1.6	--	1.9
All types	113.6	30.3	3.3	16.4	24.0	15.9	8.8	4.5	10.5

[1/]Lakes or ponds 5 acres or larger in area, and streams or rivers at least 66 feet in width. Tables may not add to total due to rounding.

Table 18.--Area of commercial forest land by forest type and stand-area class, Eastern South Dakota, 1980[1/]

(In thousand acres)

Forest type	All classes	Stand-area class (acres)								
		1-4	5-9	10-19	20-39	40-79	80-159	160-319	320-639	640+
Ponderosa pine	17.8	3.1	7.9	2.2	4.7	--	--	--	--	--
Oak	4.5	1.7	--	1.6	--	--	1.3	--	--	--
Elm-ash	45.5	13.8	11.7	10.4	5.6	1.3	2.7	--	--	--
Cottonwood	18.5	6.6	1.7	3.0	5.6	1.7	--	--	--	--
Plains hardwoods	13.0	4.5	5.4	3.0	--	--	--	--	--	--
Nonstocked	14.4	9.9	1.3	1.6	1.7	--	--	--	--	--
All types	113.6	39.6	27.9	21.6	17.5	3.0	4.0	--	--	--

[1/]Tables may not add to toal due to rounding.

Table 19.--Area of commercial forest land by stocking class based on selected stand components, Eastern South Dakota, 1980[1/]

(In thousand acres)

Stocking percentage	All live trees	Stocking classified in terms of			
		Growing-stock trees	Desirable trees	Acceptable trees	Rough and rotten trees
0-10	1.8	7.5	112.0	8.8	13.6
11-20	--	10.2	1.7	10.2	22.5
21-30	1.7	7.6	--	6.3	32.0
31-40	3.9	14.4	--	14.4	14.0
41-50	8.4	19.8	--	19.8	11.5
51-60	7.1	20.4	--	20.4	11.5
61-70	19.0	6.1	--	6.1	5.7
71-80	9.1	8.1	--	8.1	3.0
81-90	16.4	7.7	--	7.7	--
91-100	11.8	1.7	--	3.3	--
101-110	18.5	7.4	--	5.7	--
111-120	8.9	2.9	--	2.9	--
121-130	1.7	--	--	--	--
131-140	5.3	--	--	--	--
141+	--	--	--	--	--
Total	113.6	113.6	113.6	113.6	113.6

[1/] Tables may not add to total due to rounding.

Table 20.--Area of commercial forest land by forest type, physiographic class, and ownership class, Eastern South Dakota, 1980[1/]

(In thousand acres)

Forest type and physiographic class	All classes	Ownership class					
		Federal	Indian	State	County and municipal	Farmer	Misc. private
Ponderosa pine							
Hydric	--	--	--	--	--	--	--
Hydromesic	1.6	--	1.6	--	--	--	--
Mesic	1.6	--	1.6	--	--	--	--
Xeromesic	14.7	--	14.7	--	--	--	--
Xeric	--	--	--	--	--	--	--
All classes	17.8	--	17.8	--	--	--	--
Oak							
Hydric	--	--	--	--	--	--	--
Hydromesic	3.0	--	1.3	--	--	1.7	--
Mesic	1.6	--	--	--	--	1.6	--
Xeromesic	--	--	--	--	--	--	--
Xeric	--	--	--	--	--	--	--
All classes	4.5	--	1.3	--	--	3.2	--
Elm-ash							
Hydric	--	--	--	--	--	--	--
Hydromesic	10.0	1.3	5.6	--	--	3.1	--
Mesic	31.4	--	7.2	--	--	22.6	1.7
Xeromesic	4.0	--	2.7	--	--	1.3	--
Xeric	--	--	--	--	--	--	--
All classes	45.5	1.3	15.4	--	--	27.0	1.7
Cottonwood							
Hydric	--	--	--	--	--	--	--
Hydromesic	7.2	--	1.3	--	1.7	4.2	--
Mesic	8.0	--	--	--	--	8.0	--
Xeromesic	3.3	--	--	--	--	3.3	--
Xeric	--	--	--	--	--	--	--
All classes	18.5	--	1.3	--	1.7	15.5	--
Plains hardwoods							
Hydric	--	--	--	--	--	--	--
Hydromesic	--	--	--	--	--	--	--
Mesic	13.0	--	--	1.7	1.7	9.6	--
Xeromesic	--	--	--	--	--	--	--
Xeric	--	--	--	--	--	--	--
All classes	13.0	--	--	1.7	1.7	9.6	--
Nonstocked							
Hydric	--	--	--	--	--	--	--
Hydromesic	--	--	--	--	--	--	--
Mesic	13.0	--	1.7	1.8	--	9.5	--
Xeromesic	0.8	--	0.8	--	--	--	--
Xeric	0.6	--	0.6	--	--	--	--
All classes	14.4	--	3.0	1.8	--	9.5	--
All types							
Hydric	--	--	--	--	--	--	--
Hydromesic	21.8	1.3	9.8	--	1.7	9.0	--
Mesic	68.6	--	10.5	3.5	1.7	51.3	1.7
Xeromesic	22.8	--	18.2	--	--	4.6	--
Xeric	0.6	--	0.6	--	--	--	--
All classes	113.6	1.3	39.0	3.5	3.3	64.9	1.7

[1/] Tables may not add to total due to rounding.

Table 21.--Area of noncommercial forest land by ownership class, Eastern South Dakota, 1980[1/]

(In thousand acres)

Ownership class	Total	Unproductive	Productive-reserved
Federal	8.5	3.2	5.3
Indian	64.1	64.1	--
State	2.6	2.6	--
County and municipal	--	--	--
Farmer	77.5	77.5	--
Miscellaneous private	--	--	--
All owners	152.7	147.4	5.3

[1/]Tables may not add to total due to rounding.

Table 22.--Area of noncommercial forest land by forest type, Eastern South Dakota, 1980[1/]

(In thousand acres)

Ownership class	Total	Unproductive	Productive-reserved
Ponderosa pine	46.9	46.6	0.3
Juniper	2.3	--	2.3
Oak	40.0	40.0	--
Elm-ash	53.0	50.3	2.7
Cottonwood	--	--	--
Plains hardwoods	--	--	--
Nonstocked	10.5	10.5	--
All types	152.7	147.4	5.3

[1/]Tables may not total due to rounding.

Table 23.--Area of nonforest land with trees by land use and forest type, Eastern South Dakota, 1980[1/]

(In thousand acres)

Land use	All types	Forest type					
		Ponderosa pine	Oak	Elm-ash	Cottonwood	Plains hardwoods	Nonstocked
Cropland	22.1	--	--	22.1	--	--	--
Improved pasture	265.0	64.5	24.3	166.4	--	--	9.8
Wooded strips	160.0	5.0	26.4	128.6	--	--	--
Idle farmland	10.4	--	--	8.7	--	--	1.7
Marsh	5.4	--	--	5.4	--	--	--
Windbreaks	127.8	--	--	119.0	1.8	3.6	3.3
Wooded pasture	10.5	--	--	7.2	1.7	--	1.7
All uses	601.1	69.6	50.6	457.3	3.5	3.6	16.4

[1/]Tables may not add to total due to rounding.

Table 24.--Area of windbreaks by forest type and stand-size class, Eastern South Dakota, 1980[1/]

(In thousand acres)

Forest type	All stands	Stand-size class			
		Sawtimber stands	Poletimber stands	Sapling and seedling stands	Nonstocked areas
Ponderosa pine	--	--	--	--	--
Oak	--	--	--	--	--
Elm-ash	119.0	11.0	88.0	19.9	--
Cottonwood	1.8	1.8	--	--	--
Plains hardwoods	3.6	--	3.6	--	--
Nonstocked	3.3	--	--	--	3.3
All types	127.8	12.9	91.7	19.9	3.3

[1/]Tables may not add to total due to rounding.

Table 25.--Number of all live trees on commercial forest land by species group and diameter class, Eastern South Dakota, 1980[1/]

(In thousand trees)

Species group	All classes	Diameter class (inches at breast height) 1.0-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-28.9	29.0-38.9	39.0+
SOFTWOODS															
Ponderosa pine	3,807	1,112	526	824	738	307	125	73	67	21	10	2	--	1	--
Juniper	2,130	1,438	311	193	119	60	--	8	--	--	--	2	--	--	--
Total	5,937	2,550	837	1,016	857	367	126	81	67	21	10	4	--	1	--
HARDWOODS															
Oak	3,079	754	886	606	363	166	149	92	43	9	10	--	2	--	--
Basswood	328	--	133	24	44	62	41	17	9	--	--	--	--	--	--
Soft maple	42	--	--	--	--	--	--	15	4	9	5	--	2	6	1
Elm	3,217	799	401	906	471	332	125	106	23	28	16	4	8	1	--
Ash	7,490	3,112	1,385	1,232	875	425	240	59	77	44	25	8	8	--	--
Cottonwood	1,031	--	148	256	34	184	104	66	43	19	42	28	62	38	8
Willow	175	--	--	73	14	21	33	11	14	6	--	--	2	--	--
Hackberry	789	166	464	81	79	--	--	--	--	--	--	--	--	--	--
Other hardwoods	2,816	1,382	190	345	382	204	137	49	53	31	16	14	13	2	--
Noncommercial species	530	530	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	19,498	6,742	3,606	3,523	2,260	1,393	830	415	265	146	114	54	95	47	9
All species	25,435	9,293	4,443	4,539	3,117	1,760	955	495	332	167	124	58	95	48	9

[1/] Tables may not add to total due to rounding.

Table 26.--Number of growing-stock trees on commercial forest land by species group and diameter class, Eastern South Dakota, 1980[1/]

(In thousand trees)

Species group	All classes	Diameter class (inches at breast height) 1.0-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-28.9	29.0-38.9	39.0+
SOFTWOODS															
Ponderosa pine	3,226	957	370	692	668	250	119	68	67	21	10	2	--	1	--
Juniper	1,966	1,438	311	138	65	12	--	2	--	--	--	--	--	--	--
Total	5,192	2,395	681	830	733	262	119	70	67	21	10	2	--	1	--
HARDWOODS															
Oak	2,136	754	886	181	128	60	63	28	26	6	3	--	2	--	--
Basswood	81	--	--	--	13	41	27	--	--	--	--	--	--	--	--
Soft maple	13	--	--	--	--	--	--	5	4	--	3	--	--	--	1
Elm	1,705	663	136	456	225	132	28	34	11	7	8	2	5	--	--
Ash	5,556	2,546	1,117	816	486	270	171	38	56	29	16	6	6	--	--
Cottonwood	877	--	148	256	13	129	76	56	34	19	36	23	52	31	3
Willow	32	--	--	--	--	11	6	4	3	6	--	--	2	--	--
Hackberry	723	166	464	38	56	--	--	--	--	--	--	--	--	--	--
Other hardwoods	1,763	1,226	190	87	144	75	8	17	4	3	3	5	1	--	--
Total	12,886	5,355	2,941	1,833	1,066	718	378	181	138	70	69	36	67	31	5
All species	18,078	7,750	3,622	2,664	1,799	980	497	251	205	91	79	38	67	32	5

[1/] Tables may not add to total due to rounding.

Table 27.--Net volume of growing stock and sawtimber on commercial forest land by species group, Eastern South Dakota, 1965 and 1980[1/]

Species group	Growing stock		Sawtimber	
	1965[2/]	1980	1965[2/]	1980
	Thousand cubic feet		Thousand board feet[3/]	
SOFTWOODS				
Ponderosa pine	15,700	11,324	46,450	38,644
Juniper	--	641	--	663
Total	15,700	11,965	46,450	39,308
HARDWOODS				
Oak	3,690	3,023	6,060	9,832
Basswood	2,140	602	1,510	1,482
Soft maple	1,060	622	2,530	3,038
Elm	15,570	3,873	58,040	7,833
Ash	19,420	11,744	40,020	31,936
Cottonwood	27,720	17,230	119,770	77,328
Willow	1,730	698	6,570	2,579
Hackberry	170	281	140	--
Other hardwoods	2,390	1,868	4,780	3,064
Total	73,890	39,941	239,420	137,092
All species	89,590	51,907	285,870	176,400

[1/] Tables may not add to total due to rounding.

[2/] Figures have been adjusted from those published after the 1965 survey to conform to 1980 areas because of changes in survey definitions and procedures.

[3/] International 1/4-inch rule.

Table 28.--Net volume of all live trees on commercial forest land by species group and diameter class, Eastern South Dakota, 1980[1/]

(In thousand cubic feet)

Species group	All classes	Diameter class (inches at breast height)											
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-28.9	29.0-38.9	39.0+
SOFTWOODS													
Ponderosa pine	12,185	1,608	3,088	2,109	1,454	1,162	1,523	653	374	95	--	129	--
Juniper	1,100	323	377	370	--	31	--	--	--	--	--	--	--
Total	13,285	1,931	3,464	2,478	1,454	1,194	1,523	643	374	95	--	129	--
HARDWOODS													
Oak	6,853	1,167	1,281	982	1,302	915	717	213	211	--	67	--	--
Basswood	1,216	44	121	373	396	176	106	--	--	--	--	--	--
Soft maple	1,621	--	--	--	--	269	114	208	284	--	17	534	196
Elm	8,430	1,241	1,422	1,610	988	1,139	377	558	510	163	361	61	--
Ash	15,575	2,053	2,991	2,543	2,482	761	1,715	1,479	720	406	426	--	--
Cottonwood	20,506	596	121	1,328	1,027	1,233	986	658	1,710	1,431	4,428	4,859	2,130
Willow	1,083	68	1	152	234	184	184	172	--	--	88	--	--
Hackberry	414	134	280	--	--	--	--	--	--	--	--	--	--
Other hardwoods	5,585	433	969	1,021	626	421	621	497	275	307	322	94	--
Noncommercial species	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	61,284	5,736	7,186	8,008	7,054	5,097	4,819	3,784	3,710	2,307	5,709	5,548	2,326
All species	74,569	7,667	10,650	10,487	8,508	6,291	6,342	4,428	4,084	2,402	5,709	5,676	2,326

[1/] Tables may not add to total due to rounding.

Table 29.--Net volume of timber on commercial forest land by class of timber and softwoods and hardwoods, Eastern South Dakota, 1980[1/]

(In thousand cubic feet)

Class of timber	All species	Softwoods	Hardwoods
LIVE TREES			
Growing-stock trees			
Sawtimber			
Saw log portion	27,552	6,347	21,204
Upper stem portion	7,239	849	6,390
Subtotal	34,791	7,196	27,595
Poletimber	17,116	4,769	12,347
Total growing stock	51,907	11,965	39,941
Cull trees			
Rough and rotten cull trees			
Sawtimber	9,305	449	8,857
Poletimber	9,154	626	8,528
Subtotal	18,459	1,075	17,384
Short-log trees	4,203	245	3,958
Total cull	22,662	1,319	21,343
TOTAL LIVE TREES	74,569	13,284	61,284
SALVABLE DEAD TREES	2,318	--	2,318
ALL CLASSES	76,887	13,285	63,602

[1/] Tables may not add to total due to rounding.

Table 30.--Net volume of growing-stock, sawtimber, short-log, and rough and rotten trees on commercial forest land by individual species, Eastern South Dakota, 1980[1/]

Species	Total all live	Growing stock	Short-log cull	Rough and rotten cull	Sawtimber
		Thousand cubic feet			Thousand[2/] board feet
Rocky mountain juniper	151	25	--	127	117
Eastern redcedar	949	617	--	332	546
Ponderosa pine	12,185	11,324	245	616	38,644
Boxelder	5,158	1,610	545	3,002	3,064
Silver maple	1,621	622	176	823	3,038
Hackberry	414	281	--	133	--
Green ash	15,575	11,745	558	3,273	31,936
Honeylocust	362	258	104	--	--
Black walnut	24	--	--	24	--
Red mulberry	42	--	--	42	--
Eastern cottonwood	20,197	16,920	709	2,568	75,206
Plains cottonwood	310	310	--	--	2,122
Bur oak	6,853	3,023	799	3,031	9,832
Black willow	1,083	698	87	297	2,579
American basswood	1,216	602	128	486	1,482
American elm	4,782	1,925	556	2,301	5,588
Siberian elm	2,064	1,203	69	792	1,068
Slippery elm	383	--	67	316	--
Rock elm	1,202	745	106	351	1,177
All species	74,569	51,907	4,148	18,514	176,400

[1/] Tables may not add to total due to rounding.

[2/] International 1/4-inch rule.

Table 31.--Net volume of growing stock on commercial forest land by species group and county, Eastern South Dakota, 1980[1/]

(In thousand cubic feet)

County	All species	Softwoods			Hardwoods									
		Ponderosa pine	Juniper	Total softwoods	Oak	Basswood	Soft maple	Elm	Ash	Cottonwood	Willow	Hackberry	Other hardwoods	Total hardwoods
Aurora	115.8	--	2.2	2.2	7.5	1.1	1.1	10.6	16.6	74.6	0.5	1.1	0.5	113.6
Beadle	585.8	--	8.7	8.7	32.2	7.7	4.2	95.2	168.3	220.0	2.0	4.5	43.0	577.1
Bennet	974.2	683.2	0.9	684.1	56.6	3.4	0.4	26.7	68.6	111.0	9.2	1.7	12.5	290.1
Bon Homme	1,441.6	18.2	26.9	45.1	102.9	15.8	18.8	116.9	400.3	629.9	34.6	10.1	67.2	1,396.5
Brookings	636.3	1.1	13.6	14.7	50.6	7.8	6.6	69.9	109.9	359.3	4.9	7.3	5.3	621.6
Brown	1,168.3	--	26.4	26.4	91.8	13.9	12.9	129.7	191.0	677.2	6.1	13.7	5.6	1,141.9
Brule	194.0	1.1	3.0	4.1	13.7	2.2	1.5	17.8	34.5	112.8	2.5	1.8	3.1	189.9
Buffalo	219.3	1.1	3.6	4.7	15.9	2.5	1.7	20.8	38.2	127.4	2.7	2.1	3.3	214.6
Campbell	56.4	1.1	--	1.1	3.2	0.6	--	3.1	11.6	32.4	1.8	0.2	2.4	55.3
Charles Mix	1,610.3	17.6	30.3	47.9	108.8	17.1	27.4	130.3	417.7	738.0	33.7	11.5	77.9	1,562.4
Clark	192.9	--	4.0	4.0	13.9	2.1	2.0	19.7	29.2	118.2	0.9	2.1	0.8	188.9
Clay	280.8	2.2	4.4	6.6	21.9	3.5	2.1	27.8	55.6	150.0	4.6	2.8	5.9	274.2
Codington	382.4	8.1	21.6	29.7	29.2	5.1	0.7	37.5	102.1	143.7	13.4	2.6	18.4	352.7
Corson[2/]	1,847.3	26.5	44.1	70.6	130.0	20.6	26.3	150.3	526.0	764.5	48.5	12.2	98.3	1,776.7
Custer[2/]	230.7	--	5.3	5.3	18.5	2.8	2.6	26.1	38.3	132.0	1.2	2.8	1.1	225.4
Davison	262.9	--	3.8	3.8	21.7	2.0	1.9	20.4	101.7	103.4	3.2	2.0	2.8	259.1
Day	738.2	7.6	15.4	23.0	41.5	11.5	28.3	51.3	250.1	251.0	14.6	3.1	63.8	715.2
Deuel	278.3	--	6.4	6.4	22.3	3.4	3.1	31.5	46.2	159.2	1.5	3.3	1.4	271.9
Dewey	734.9	13.1	33.1	46.2	54.6	9.3	2.1	69.6	180.7	314.5	22.4	5.2	30.3	688.7
Douglas	4.3	--	--	--	--	--	--	--	0.2	4.1	--	--	--	4.3
Edmunds	20.3	--	0.5	0.5	1.6	0.2	0.2	2.3	3.4	11.7	0.1	0.2	0.1	19.8
Faulk	18.6	--	0.4	0.4	1.5	0.2	0.2	2.1	3.1	10.7	0.1	0.2	0.1	18.2
Grant	939.3	20.0	0.4	20.4	62.2	11.0	0.2	108.2	324.8	288.3	32.9	4.9	86.4	918.9
Gregory	3,111.8	3.2	47.6	50.8	218.6	28.2	68.3	248.1	980.6	1,357.2	29.7	23.8	106.5	3,061.0
Haakon	590.4	1.1	12.7	13.8	39.1	5.6	4.6	51.4	107.0	353.9	4.7	5.2	5.1	576.6
Hamlin	306.9	1.1	6.1	7.2	24.5	3.8	3.0	33.0	56.0	169.0	3.2	3.4	3.8	299.7
Hand	55.5	--	0.9	0.9	3.0	0.5	0.4	4.3	7.1	38.5	0.2	0.4	0.2	54.6
Hanson	121.5	--	1.3	1.3	10.0	0.7	0.6	7.3	58.8	38.7	1.8	0.7	1.6	120.2
Hughes	284.3	--	6.2	6.2	21.7	3.3	3.0	30.6	45.6	168.0	1.4	3.2	1.3	278.1
Hutchinson	272.9	--	3.0	3.0	21.8	1.6	1.5	16.9	122.2	97.2	3.8	1.6	3.3	269.9
Hyde	18.8	--	0.4	0.4	1.5	0.2	0.2	2.1	3.1	10.9	0.1	0.2	0.1	18.4
Jackson	211.5	--	4.1	4.1	14.1	2.1	2.0	19.9	29.4	136.0	0.9	2.1	0.9	207.4
Jerauld	126.8	2.2	0.9	3.1	9.6	1.6	0.4	10.4	29.9	62.0	3.8	0.9	5.1	123.7
Jones	377.9	--	6.5	6.5	25.6	3.5	3.2	32.6	72.7	226.1	2.3	3.4	2.0	371.4
Kingsbury	327.8	--	7.2	7.2	24.9	3.8	3.5	35.2	52.3	194.1	1.6	3.7	1.5	320.6
Lake	177.8	--	3.0	3.0	13.1	1.6	1.4	15.1	46.3	93.1	1.4	1.5	1.3	174.8
Lincoln	630.0	--	10.8	10.8	45.9	5.7	12.1	55.4	175.3	298.8	4.8	5.6	15.6	619.2
Lyman	761.9	2.3	12.9	15.2	54.7	8.0	6.3	70.5	143.7	440.3	7.5	7.2	8.5	746.7
Marshall	1,035.3	21.4	1.3	22.7	69.5	12.3	0.6	114.8	343.7	342.2	35.4	5.6	88.5	1,012.6
McCook	364.0	1.1	5.6	6.7	28.6	3.6	2.8	31.9	103.0	174.6	4.6	3.2	5.0	357.3
McPherson	8.9	--	--	--	--	--	--	--	0.4	8.5	--	--	--	8.9

(Table 31 continued on next page)

(Table 31 continued)

County	All species	Softwoods			Hardwoods									
		Ponderosa pine	Juniper	Total softwoods	Oak	Basswood	Soft maple	Elm	Ash	Cottonwood	Willow	Hackberry	Other hardwoods	Total hardwoods
Meade[2/]	1,705.1	33.7	44.9	78.6	168.7	137.8	11.4	249.5	556.6	431.8	24.2	6.9	39.6	1,626.5
Mellette	2,020.2	78.9	33.0	111.9	127.3	26.0	26.9	212.0	501.4	901.6	16.5	15.2	81.4	1,908.3
Miner	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minnehaha	401.1	6.6	3.0	9.6	33.3	5.2	1.5	34.2	118.1	167.8	12.2	3.1	16.1	391.5
Moody	604.3	8.8	0.9	9.7	29.7	5.2	7.2	78.7	227.2	157.3	14.6	2.5	72.2	594.6
Pennington[2/]	368.3	6.5	2.6	9.1	28.7	4.9	1.2	31.2	90.5	173.4	11.3	2.8	15.2	359.2
Perkins	516.8	--	16.4	16.4	34.6	5.2	4.8	51.3	74.8	320.2	2.3	5.1	2.1	500.4
Potter	40.0	1.2	--	1.2	3.5	0.6	--	3.3	12.4	14.2	1.9	0.3	2.6	38.8
Roberts	2,587.4	26.2	22.4	48.6	167.9	78.2	90.9	203.5	930.5	793.8	52.0	9.4	212.6	2,538.8
Sanborn	160.9	2.2	1.7	3.9	12.7	2.1	0.8	14.9	36.8	79.0	4.0	1.4	5.3	157.0
Shannon	11,505.9	7,760.7	22.7	7,783.4	288.7	24.8	115.6	311.2	1,290.7	1,338.3	69.5	14.4	269.3	3,722.5
Spink	543.9	4.4	8.8	13.2	32.9	5.3	16.3	43.1	135.3	251.8	8.5	3.9	33.6	530.7
Stanley	325.9	3.2	4.7	7.9	26.2	4.2	2.3	32.3	68.9	166.2	6.4	3.2	8.3	318.0
Sully	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Todd	3,992.6	2,313.5	39.2	2,352.7	185.7	19.4	8.6	198.1	404.1	728.9	35.4	13.5	46.2	1,639.9
Tripp	761.4	8.8	11.8	20.6	62.4	18.4	4.2	79.9	166.7	364.8	16.4	6.5	21.5	740.8
Turner	321.0	--	5.2	5.2	26.7	2.8	2.6	27.3	113.1	134.0	3.5	2.7	3.1	315.8
Union	1,032.0	2.2	11.9	14.1	61.9	7.5	32.6	70.7	322.8	450.5	10.1	6.7	55.1	1,017.9
Walworth	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Washabaugh	1,213.4	222.8	5.2	228.0	53.5	8.6	0.6	149.1	377.6	251.4	24.1	4.1	116.4	985.4
Yankton	1,556.4	--	17.3	17.3	114.0	9.2	29.0	97.8	669.8	541.3	18.6	9.0	50.4	1,539.1
Ziebach	533.3	11.1	4.1	15.2	36.6	6.4	7.3	37.9	151.9	220.3	18.3	3.0	36.4	518.1
All counties	51,906.8	11,324.1	641.3	11,965.4	3,023.3	601.7	622.0	3,873.3	11,744.4	17,229.6	698.4	280.8	1,867.9	39,941.4

[1/] Tables may not add to total due to rounding.

[2/] Only the portions of these counties east of the 103rd meridian are included in the area surveyed by the North Central Forest Experiment Station.

Table 32.--Net volume of sawtimber on commercial forest land by species group and county, Eastern South Dakota, 1980[1/]

(In thousand board feet)[2/]

County	All species	Softwoods			Hardwoods									
		Ponderosa pine	Juniper	Total softwoods	Oak	Basswood	Soft maple	Elm	Ash	Cottonwood	Willow	Hackberry	Other hardwoods	Total hardwoods
Aurora	380.5	--	--	--	22.1	2.2	3.9	14.3	23.4	313.5	--	--	1.1	380.5
Beadle	1,572.8	--	--	--	94.6	19.5	15.7	170.1	219.8	1,048.5	--	--	4.6	1,572.8
Bennet	3,003.5	2,093.5	--	2,093.5	83.6	6.2	1.6	83.5	147.4	545.5	33.5	--	8.7	910.0
Bon Homme	4,950.2	106.2	39.7	145.9	350.6	29.1	92.3	240.6	1,044.5	2,813.9	127.4	--	105.9	4,804.3
Brookings	2,200.2	6.3	--	6.3	151.8	14.7	24.6	97.5	172.3	1,717.6	6.6	--	8.8	2,193.9
Brown	4,029.3	--	--	--	270.9	26.5	47.8	174.7	286.6	3,208.9	--	--	13.9	4,029.3
Brule	650.1	6.4	--	6.4	43.0	4.1	5.4	27.4	57.4	496.6	6.6	--	3.2	643.7
Buffalo	712.1	6.6	--	6.6	49.5	4.7	6.5	31.5	64.7	538.1	6.9	--	3.6	705.5
Campbell	154.3	6.2	--	6.2	12.1	1.0	--	7.5	24.6	94.8	6.5	--	1.6	148.1
Charles Mix	5,468.7	102.9	40.8	143.7	365.4	31.4	136.6	257.2	1,039.1	3,235.1	118.9	--	141.3	5,325.0
Clark	637.3	--	--	--	41.1	4.0	7.2	26.5	43.4	513.0	--	--	2.1	637.3
Clay	951.5	13.0	--	13.0	69.9	6.5	7.9	44.3	98.2	692.4	13.6	--	5.7	938.5
Codington	1,305.5	47.1	51.2	98.3	105.3	9.2	2.5	115.2	199.3	713.6	49.2	--	12.9	1,207.2
Corson[3/]	6,381.7	155.2	82.1	237.3	450.7	37.6	132.6	343.2	1,339.1	3,506.1	179.2	--	155.9	6,144.4
Custer[3/]	800.0	--	--	--	54.6	5.3	9.6	35.2	57.7	634.8	--	--	2.8	800.0
Davison	1,013.2	--	--	--	67.9	3.9	7.0	25.4	396.0	488.8	16.6	--	7.6	1,013.2
Day	2,574.5	44.6	32.3	76.9	142.9	31.4	150.9	123.8	758.3	1,079.4	57.7	--	153.2	2,497.6
Deuel	964.9	--	--	--	65.8	6.4	11.6	42.4	69.6	765.7	--	--	3.4	964.9
Dewey	2,472.2	76.5	72.8	149.3	192.4	17.0	7.8	190.7	346.2	1,466.8	80.0	--	22.0	2,322.9
Douglas	10.9	--	--	--	--	--	--	--	--	10.9	--	--	--	10.9
Edmunds	70.4	--	--	--	4.8	0.5	0.8	3.1	5.1	55.9	--	--	0.2	70.4
Faulk	64.6	--	--	--	4.4	0.4	0.8	2.8	4.7	51.3	--	--	0.2	64.6
Grant	2,824.0	116.8	--	116.8	231.3	19.9	0.8	244.3	588.9	1,469.4	122.2	--	30.4	2,707.2
Gregory	11,346.8	18.9	8.0	26.9	677.0	58.3	333.3	335.3	3,331.7	6,161.0	124.0	--	299.3	11,319.9
Haakon	1,880.1	6.4	8.2	14.6	119.2	10.6	17.2	78.3	247.4	1,372.0	12.3	--	8.5	1,865.5
Hamlin	1,062.1	6.5	--	6.5	75.0	7.2	11.0	48.0	91.3	811.5	6.7	--	4.9	1,055.6
Hand	175.5	--	--	--	8.9	0.9	1.6	5.7	9.4	148.5	--	--	0.5	175.5
Hanson	488.1	--	--	--	32.3	1.3	2.3	8.5	250.8	177.4	11.1	--	4.4	488.1
Hughes	972.7	--	--	--	64.0	6.2	11.3	41.3	67.7	778.9	--	--	3.3	972.7
Hutchinson	1,072.3	--	--	--	69.5	3.0	5.5	20.0	511.1	431.7	22.4	--	9.1	1,072.3
Hyde	65.3	--	--	--	4.5	0.4	0.8	2.9	4.7	51.8	--	--	0.2	65.3
Jackson	659.1	--	--	--	41.6	4.1	7.3	26.8	44.1	533.1	--	--	2.1	659.1
Jerauld	417.8	12.7	--	12.7	33.4	3.0	1.5	20.8	59.1	270.3	13.3	--	3.7	405.1
Jones	1,221.1	--	--	--	76.8	6.5	11.8	43.2	191.6	880.2	5.7	--	5.3	1,221.1
Kingsbury	1,120.1	--	--	--	73.4	7.2	13.0	47.4	77.6	897.7	--	--	3.8	1,120.1
Lake	621.3	--	--	--	39.9	3.0	5.4	19.7	149.7	394.7	5.5	--	3.4	621.3
Lincoln	2,277.5	--	--	--	139.5	10.8	56.4	71.4	555.6	1,381.3	16.8	--	45.7	2,277.5
Lyman	2,490.2	13.2	--	13.2	168.2	15.2	23.4	101.3	315.3	1,821.8	19.6	--	12.2	2,477.0
Marshall	3,159.5	125.3	--	125.3	256.2	22.1	2.3	256.4	626.8	1,706.2	131.1	--	33.1	3,034.2
McCook	1,305.1	6.5	--	6.5	89.7	6.7	10.2	45.0	326.5	794.1	18.0	--	8.4	1,298.6
McPherson	22.5	--	--	--	--	--	--	--	--	22.5	--	--	--	22.5

(Table 32 continued on next page)

(Table 32 continued)

County	All species	Softwoods			Hardwoods									
		Ponderosa pine	Juniper	Total softwoods	Oak	Basswood	Soft maple	Elm	Ash	Cottonwood	Willow	Hackberry	Other hardwoods	Total hardwoods
Meade[3/]	5,643.1	142.4	89.5	231.9	524.2	469.8	54.0	676.7	1,578.4	1,927.3	109.5	--	71.3	5,411.2
Mellette	6,449.4	297.4	26.8	324.2	392.3	63.9	123.1	351.0	1,163.5	3,885.4	49.0	--	97.0	6,125.2
Miner	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minnehaha	1,417.5	38.5	--	38.5	115.4	9.4	5.5	66.0	303.2	820.2	45.9	--	13.4	1,379.0
Moody	1,660.0	51.4	--	51.4	108.7	9.4	38.4	168.0	416.1	766.0	53.8	--	48.2	1,608.6
Pennington[3/]	1,261.2	38.1	--	38.1	100.2	8.9	4.6	62.4	177.1	818.9	39.8	--	11.2	1,223.1
Perkins	1,664.5	--	16.3	16.3	101.9	10.0	18.0	81.7	107.8	1,323.6	--	--	5.2	1,648.2
Potter	141.1	6.7	--	6.7	13.1	1.1	--	8.0	26.4	77.1	7.0	--	1.7	134.4
Roberts	8,995.4	153.0	40.4	193.4	566.9	245.9	487.3	484.2	2,891.9	3,404.4	215.6	--	505.8	8,802.0
Sanborn	554.0	12.9	--	12.9	42.8	3.9	3.1	26.9	69.4	377.2	13.5	--	4.3	541.1
Shannon	38,526.6	24,888.2	24.5	24,912.7	1,019.0	45.2	615.6	995.0	4,463.4	5,543.6	292.2	--	639.9	13,613.9
Spink	1,860.8	25.7	8.1	33.8	107.4	9.9	83.8	75.7	322.2	1,122.7	26.9	--	78.4	1,827.0
Stanley	1,114.5	19.0	--	19.0	84.9	7.9	8.5	53.7	125.2	788.0	19.9	--	7.4	1,095.5
Sully	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Todd	15,104.2	9,196.6	88.1	9,284.7	653.4	35.9	32.0	486.0	989.1	3,464.3	119.5	--	39.3	5,819.5
Tripp	2,539.7	51.3	8.1	59.4	204.4	49.4	15.6	159.4	294.6	1,685.5	53.6	--	17.8	2,480.3
Turner	1,221.2	--	--	--	82.9	5.2	9.5	34.7	418.8	644.7	17.0	--	8.4	1,221.2
Union	3,664.2	12.7	--	12.7	194.2	14.1	166.7	94.0	1,084.3	1,902.9	40.9	--	154.4	3,651.5
Walworth	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Washabaugh	3,179.6	675.1	18.3	693.4	180.7	15.5	2.4	330.5	603.9	1,241.6	88.9	--	22.7	2,486.2
Yankton	6,032.2	--	--	--	361.6	17.4	142.6	114.9	2,711.0	2,429.2	106.9	--	148.6	6,032.2
Ziebach	1,820.8	64.6	8.2	72.8	134.3	11.6	38.6	90.9	343.4	1,009.8	67.6	--	51.8	1,748.0
All counties	176,399.5	38,644.4	663.4	39,307.8	9,832.1	1,482.4	3,037.5	7,832.9	31,936.4	77,327.7	2,578.9	--	3,063.8	137,091.7

[1/] Tables may not add to total due to rounding.

[2/] International 1/4-inch rule.

[3/] Only the portions of these counties east of the 103rd meridian are included in the area surveyed by the North Central Forest Experiment Station.

Table 33.--Net volume of growing stock on commercial forest land by species group and diameter class, Eastern South Dakota, 1980[1/]

(In thousand cubic feet)

Species group	All classes	Diameter class (inches at breast height) 5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-28.9	29.0-38.9	39.0+
SOFTWOODS													
Ponderosa pine	11,324	1,370	2,885	1,831	1,407	1,067	1,523	643	374	95	--	129	--
Juniper	641	280	235	103	--	25	--	--	--	--	--	--	--
Total	11,965	1,650	3,120	1,933	1,407	1,092	1,523	643	374	95	--	129	--
HARDWOODS													
Oak	3,023	356	548	363	596	373	479	151	90	--	67	--	--
Basswood	602	--	50	284	268	--	--	--	--	--	--	--	--
Soft maple	622	--	--	--	--	118	114	--	194	--	--	--	196
Elm	3,873	740	760	713	270	455	187	150	275	91	232	--	--
Ash	11,744	1,512	2,038	1,775	1,969	625	1,421	1,106	589	332	377	--	--
Cottonwood	17,230	596	73	1,020	766	1,155	836	658	1,593	1,242	3,963	4,251	1,078
Willow	698	--	--	92	116	136	94	172	--	--	88	--	--
Hackberry	281	61	220	--	--	--	--	--	--	--	--	--	--
Other hardwoods	1,868	134	493	519	48	192	106	56	63	171	87	--	--
Total	39,941	3,399	4,182	4,766	4,033	3,054	3,237	2,292	2,804	1,835	4,814	4,251	1,274
All species	51,907	5,049	7,301	6,699	5,440	4,146	4,761	2,935	3,178	1,930	4,814	4,379	1,274

[1/]Tables may not add to total due to rounding.

Table 34.--Net volume of sawtimber on commercial forest land by species group and diameter class, Eastern South Dakota, 1980[1/]

(In thousand board feet)[2/]

Species group	All classes	Diameter class (inches at breast height) 9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-28.9	29.0-38.9	39.0+
SOFTWOODS											
Ponderosa pine	38,644	9,683	7,148	5,451	8,875	3,768	2,361	576	--	783	--
Juniper	663	546	--	117	--	--	--	--	--	--	--
Total	39,308	10,229	7,148	5,568	8,875	3,768	2,361	576	--	783	--
HARDWOODS											
Oak	9,832	--	3,303	1,939	2,903	946	394	--	347	--	--
Basswood	1,482	--	1,482	--	--	--	--	--	--	--	--
Soft maple	3,038	--	--	603	288	--	1,420	--	--	--	726
Elm	7,833	--	1,187	2,228	860	849	1,033	406	1,270	--	--
Ash	31,936	--	9,500	2,991	7,068	5,272	2,827	1,924	2,355	--	--
Cottonwood	77,328	--	3,678	5,478	4,352	3,469	7,770	6,742	19,588	20,743	5,510
Willow	2,579	--	477	348	357	751	--	--	647	--	--
Hackberry	--	--	--	--	--	--	--	--	--	--	--
Other hardwoods	3,064	--	475	1,030	404	161	198	626	170	--	--
Total	137,092	--	20,103	14,616	16,232	11,447	13,641	9,698	24,377	20,743	6,236
All species	176,400	10,229	27,251	20,184	25,107	15,215	16,002	10,274	24,377	21,526	6,236

[1/]Tables may not add to total due to rounding.

[2/]International 1/4-inch rule.

Table 35.--Net volume of growing stock on commercial forest land by species group and forest type, Eastern South Dakota 1980[1/]

(In thousand cubic feet)

Species group	All types	Forest type					
		Ponderosa pine	Oak	Elm-ash	Cottonwood	Plains hardwoods	Nonstocked
SOFTWOODS							
Ponderosa pine	11,324	10,880	--	445	--	--	--
Juniper	641	--	--	358	43	216	25
Total	11,965	10,880	--	802	43	216	25
HARDWOODS							
Oak	3,023	55	959	1,530	--	357	122
Basswood	602	--	--	390	--	212	--
Soft maple	622	--	--	426	--	196	--
Elm	3,873	57	--	3,371	80	160	206
Ash	11,744	--	651	8,429	744	1,713	207
Cottonwood	17,230	124	--	1,297	14,891	918	--
Willow	698	--	88	428	182	--	--
Hackberry	281	--	--	208	--	--	73
Other hardwoods	1,868	--	77	1,054	--	638	100
Total	39,941	236	1,776	17,133	15,896	4,193	709
All species	51,907	11,116	1,776	17,935	15,939	4,409	733

[1/]Tables may not add to total due to rounding.

Table 36.--Net volume of sawtimber on commercial forest land by species group and forest type, Eastern South Dakota, 1980[1/]

(In thousand board feet)[2/]

Species group	All types	Forest type					
		Ponderosa pine	Oak	Elm-ash	Cottonwood	Plains hardwoods	Nonstocked
SOFTWOODS							
Ponderosa pine	38,644	36,015	--	2,630	--	--	--
Juniper	663	--	--	--	--	546	117
Total	39,308	36,015	--	2,630	--	546	117
HARDWOODS							
Oak	9,832	--	4,747	4,292	--	793	--
Basswood	1,482	--	--	1,081	--	402	--
Soft maple	3,038	--	--	2,311	--	726	--
Elm	7,833	395	--	6,192	320	926	--
Ash	31,936	--	2,635	21,733	1,934	5,251	385
Cottonwood	77,328	584	--	6,754	65,169	4,820	--
Willow	2,579	--	647	1,666	266	--	--
Hackberry	--	--	--	--	--	--	--
Other hardwoods	3,064	--	216	2,159	--	211	478
Total	137,092	979	8,244	46,188	67,689	13,130	862
All species	176,400	36,994	8,244	48,818	67,689	13,676	979

[1/]Tables may not add to total due to rounding.

[2/]International 1/4-inch rule.

Table 37.--Net volume of growing stock on commercial forest land by species group and ownership class, Eastern South Dakota, 1980[1/]

(In thousand cubic feet)

Species group	All classes	Ownership class					
		Federal	Indian	State	County and municipal	Farmer	Misc. private
SOFTWOODS							
Ponderosa pine	11,324	--	11,324	--	--	--	--
Juniper	641	--	25	--	--	617	--
Total	11,965	--	11,349	--	--	617	--
HARDWOODS							
Oak	3,023	--	950	209	--	1,864	--
Basswood	602	--	268	212	--	122	--
Soft maple	622	--	--	--	--	622	--
Elm	3,873	--	768	76	--	2,886	144
Ash	11,744	--	2,684	159	146	8,494	262
Cottonwood	17,230	--	1,067	--	3,476	12,506	181
Willow	698	--	172	--	--	527	--
Hackberry	281	--	--	--	--	281	--
Other hardwoods	1,868	--	57	--	--	1,811	--
Total	39,941	--	5,966	655	3,622	29,112	587
All species	51,907	--	17,315	655	3,622	29,729	587

[1/] Tables may not add to total due to rounding.

Table 38.--Net volume of sawtimber on commercial forest land by species group and ownership class, Eastern South Dakota, 1980[1/]

(In thousand board feet)[2/]

Species group	All classes	Ownership class					
		Federal	Indian	State	County and municipal	Farmer	Misc. private
SOFTWOODS							
Ponderosa pine	38,644	--	38,644	--	--	--	--
Juniper	663	--	117	--	--	546	--
Total	39,308	--	38,761	--	--	546	--
HARDWOODS							
Oak	9,832	--	2,471	793	--	6,568	--
Basswood	1,482	--	1,081	402	--	--	--
Soft maple	3,038	--	--	--	--	3,038	--
Elm	7,833	--	2,861	392	--	4,580	--
Ash	31,936	--	3,898	435	--	27,604	--
Cottonwood	77,328	--	5,758	--	15,671	55,009	889
Willow	2,579	--	751	--	--	1,828	--
Hackberry	--	--	--	--	--	--	--
Other hardwoods	3,064	--	--	--	--	3,064	--
Total	137,092	--	16,819	2,022	15,671	101,691	889
All species	176,400	--	55,581	2,022	15,671	102,237	889

[1/] Tables may not add to total due to rounding.

[2/] International 1/4-inch rule.

Table 39.--Net volume of growing stock on commercial forest land by forest type and stand-age class, Eastern South Dakota, 1980[1/]

(In thousand cubic feet)

Forest type	All classes	Stand-age class (years)												
		0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	141+
Ponderosa pine	11,116	--	--	--	533	--	1,850	5,362	1,585	579	1,207	--	--	--
Oak	1,776	60	--	--	--	--	--	--	910	--	--	805	--	--
Elm-ash	17,935	3,217	758	1,634	1,708	833	3,137	1,357	1,571	676	--	2,510	535	--
Cottonwood	15,939	--	--	--	--	1,698	--	340	2,256	3,275	5,682	2,170	519	--
Plains hardwoods	4,409	1,136	146	--	1,687	--	--	655	--	787	--	--	--	--
Nonstocked	733	264	--	122	--	44	55	249	--	--	--	--	--	--
All types	51,907	4,677	904	1,756	3,928	2,575	5,041	7,962	6,322	5,316	6,889	5,485	1,053	--

[1/]Tables may not add to total due to rounding.

Table 40.--Net volume of sawtimber on commercial forest land by forest type and stand-age class, Eastern South Dakota, 1980[1/]

(In thousand board feet)[2/]

Forest type	All classes	Stand-age class (years)												
		0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	141+
Ponderosa pine	36,994	--	--	--	1,410	--	5,141	17,030	6,447	2,808	4,158	--	--	--
Oak	8,244	316	--	--	--	--	--	--	4,209	--	--	3,719	--	--
Elm-ash	48,818	9,918	--	1,585	2,213	889	10,375	748	6,467	2,135	--	11,903	2,586	--
Cottonwood	67,689	--	--	--	--	3,043	--	1,403	7,231	16,723	26,219	10,614	2,456	--
Plains hardwoods	13,676	3,464	--	--	4,820	--	--	2,022	--	3,370	--	--	--	--
Nonstocked	979	117	--	--	--	--	385	478	--	--	--	--	--	--
All types	176,400	13,815	--	1,585	8,444	3,932	15,901	21,681	24,353	25,036	30,377	26,236	5,042	--

[1/]Tables may not add to total due to rounding.

[2/]International 1/4-inch rule.

Table 41.--Net volume of growing stock on commercial forest land by forest type, stand-size class, and basal-area class, Eastern South Dakota, 1980[1/]

(In thousand cubic feet)

Forest type and stand-size class	All classes	Basal-area class (square feet per acre)													
		0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-150	151-180	181+
Ponderosa pine															
Sawtimber	6,631	--	--	554	--	--	1,117	828	1,030	--	1,207	--	1,894	--	--
Poletimber	4,484	--	--	402	533	--	--	--	--	--	1,312	--	2,237	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
All stands	11,116	--	--	956	533	--	1,117	828	1,030	--	2,519	--	4,131	--	--
Oak															
Sawtimber	1,715	--	--	--	--	--	--	1,715	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sapling & seedling	60	--	--	--	--	--	60	--	--	--	--	--	--	--	--
All stands	1,776	--	--	--	--	--	60	1,715	--	--	--	--	--	--	--
Elm-ash															
Sawtimber	7,079	--	--	--	311	1,013	1,622	676	2,484	--	--	973	--	--	--
Poletimber	6,881	--	--	--	580	288	--	247	--	587	3,005	818	1,357	--	--
Sapling & seedling	3,975	--	175	440	587	306	1,377	1,090	--	--	--	--	--	--	--
All stands	17,935	--	175	440	1,478	1,607	2,999	2,013	2,484	587	3,005	1,791	1,357	--	--
Cottonwood															
Sawtimber	15,001	--	--	340	519	1,535	1,157	1,013	1,481	--	6,751	--	2,206	--	--
Poletimber	938	--	--	--	--	938	--	--	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
All stands	15,939	--	--	340	519	2,473	1,157	1,013	1,481	--	6,751	--	2,206	--	--
Plains hardwoods															
Sawtimber	1,442	--	--	--	--	--	--	--	787	655	--	--	--	--	--
Poletimber	1,687	--	--	--	--	204	--	--	--	--	1,483	--	--	--	--
Sapling & seedling	1,281	--	--	--	--	645	636	--	--	--	--	--	--	--	--
All stands	4,409	--	--	--	--	849	636	--	787	655	1,483	--	--	--	--
Nonstocked	733	--	--	69	122	55	--	249	239	--	--	--	--	--	--
All types															
Sawtimber	31,868	--	--	894	830	2,548	3,896	4,232	5,782	655	7,958	973	4,100	--	--
Poletimber	13,990	--	--	402	1,113	1,430	--	247	--	587	5,800	818	3,594	--	--
Sapling & seedling	5,316	--	175	440	587	951	2,073	1,090	--	--	--	--	--	--	--
Nonstocked	733	--	--	69	122	55	--	249	239	--	--	--	--	--	--
All stands	51,907	--	175	1,805	2,652	4,984	5,970	5,817	6,021	1,242	13,758	1,791	7,694	--	--

[1/] Tables may not add to total due to rounding.

Table 42.--Net volume of sawtimber on commercial forest land by forest type, stand-size class, and basal-area class, Eastern South Dakota, 1980[1/]

(In thousand board feet)[2/]

Forest type and stand-size class	All classes	Basal-area class (square feet per acre)													
		0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-150	151-180	181+
Ponderosa pine															
Sawtimber	26,825	--	--	2,802	--	--	4,417	3,217	3,645	--	4,158	--	8,587	--	--
Poletimber	10,168	--	--	1,117	1,410	--	--	--	--	--	3,532	--	4,109	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
All stands	36,994	--	--	3,919	1,410	--	4,417	3,217	3,645	--	7,690	--	12,696	--	--
Oak															
Sawtimber	7,928	--	--	--	--	--	--	7,928	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sapling & seedling	316	--	--	--	--	--	316	--	--	--	--	--	--	--	--
All stands	8,244	--	--	--	--	--	316	7,928	--	--	--	--	--	--	--
Elm-ash															
Sawtimber	30,378	--	--	--	1,647	4,573	6,512	2,135	11,508	--	--	4,004	--	--	--
Poletimber	8,522	--	--	--	1,296	--	--	--	--	889	3,631	1,958	748	--	--
Sapling & seedling	9,918	--	--	2,062	1,728	785	5,342	--	--	--	--	--	--	--	--
All stands	48,818	--	--	2,062	4,671	5,358	11,854	2,135	11,508	889	3,631	5,962	748	--	--
Cottonwood															
Sawtimber	66,560	--	--	1,403	2,456	4,867	6,137	4,476	4,278	--	32,394	--	10,548	--	--
Poletimber	1,129	--	--	--	--	1,129	--	--	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
All stands	67,689	--	--	1,403	2,456	5,996	6,137	4,476	4,278	--	32,394	--	10,548	--	--
Plains hardwoods															
Sawtimber	5,392	--	--	--	--	--	--	--	3,370	2,022	--	--	--	--	--
Poletimber	4,820	--	--	--	--	--	--	--	--	--	4,820	--	--	--	--
Sapling & seedling	3,464	--	--	--	--	376	3,088	--	--	--	--	--	--	--	--
All stands	13,676	--	--	--	--	376	3,088	--	3,370	2,022	4,820	--	--	--	--
Nonstocked	979	--	--	117	--	385	--	478	--	--	--	--	--	--	--
All types															
Sawtimber	137,083	--	--	4,205	4,103	9,440	17,066	17,756	22,801	2,022	36,552	4,004	19,135	--	--
Poletimber	24,639	--	--	1,117	2,706	1,129	--	--	--	889	11,983	1,958	4,857	--	--
Sapling & seedling	13,698	--	--	2,062	1,728	1,161	8,746	--	--	--	--	--	--	--	--
Nonstocked	979	--	--	117	--	385	--	478	--	--	--	--	--	--	--
All stands	176,400	--	--	7,502	8,537	12,114	25,813	18,234	22,801	2,911	48,535	5,962	23,992	--	--

[1/] Tables may not add to total due to rounding.

[2/] International 1/4-inch rule.

Table 43.--Net volume of sawtimber on commercial forest land by species group and butt log-grade, Eastern South Dakota, 1980[1/]

(In thousand board feet)[2/]

Species group	All grades	Log grade			
		1	2	3	Tie and timber
SOFTWOODS					
Ponderosa pine	38,644	783	--	37,862	--
Juniper	663	--	--	663	--
Total	39,308	783	--	38,525	--
HARDWOODS					
Oak	9,832	--	741	8,653	438
Basswood	1,482	--	427	1,055	--
Soft maple	3,038	1,420	603	1,015	--
Elm	7,833	950	722	5,382	779
Ash	31,936	3,031	3,948	24,197	761
Cottonwood	77,328	17,962	29,672	28,982	711
Willow	2,579	--	485	2,094	--
Hackberry	--	--	--	--	--
Other hardwoods	3,064	--	404	2,660	--
Total	137,092	23,363	37,001	74,039	2,689
All species	176,400	24,146	37,001	112,564	2,689

[1/] Tables may not add to total due to rounding.

[2/] International 1/4-inch rule.

Table 44.--Net volume of short-log trees on commercial forest land by species group and diameter class, Eastern South Dakota, 1980[1/]

(In thousand cubic feet)

Species group	All classes	Diameter class (inches at breast height) 9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-28.9	29.0-38.9	39.0+
SOFTWOODS											
Ponderosa pine	245	150	--	95	--	--	--	--	--	--	--
Juniper	--	--	--	--	--	--	--	--	--	--	--
Total	245	150	--	95	--	--	--	--	--	--	--
HARDWOODS											
Oak	799	--	345	262	73	--	118	--	--	--	--
Basswood	128	--	128	--	--	--	--	--	--	--	--
Soft maple	176	--	--	--	--	176	--	--	--	--	--
Elm	798	--	341	138	107	140	--	72	--	--	--
Ash	558	--	214	--	173	121	--	--	49	--	--
Cottonwood	709	--	189	--	--	--	107	120	195	98	--
Willow	87	--	87	--	--	--	--	--	--	--	--
Hackberry	--	--	--	--	--	--	--	--	--	--	--
Other hardwoods	649	--	165	--	238	63	82	--	101	--	--
Total	3,903	--	1,469	400	591	500	308	192	345	98	--
All species	4,148	150	1,469	495	591	500	308	192	345	98	--

[1/] Tables may not add to total due to rounding.

Table 45.--Net volume of short-log trees on commercial forest land by species group and diameter class, Eastern South Dakota, 1980[1/]

(In thousand board feet)[2/]

Species group	All classes	Diameter class (inches at breast height)									
		9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-22.9	23.0-28.9	29.0-38.9	39.0+
SOFTWOODS											
Ponderosa pine	735	600	--	136	--	--	--	--	--	--	--
Juniper	--	--	--	--	--	--	--	--	--	--	--
Total	735	600	--	136	--	--	--	--	--	--	--
HARDWOODS											
Oak	3,971	--	1,772	1,371	298	--	531	--	--	--	--
Basswood	405	--	405	--	--	--	--	--	--	--	--
Soft maple	754	--	--	--	--	754	--	--	--	--	--
Elm	3,013	--	1,327	587	576	368	--	157	--	--	--
Ash	2,357	--	885	--	579	825	--	--	69	--	--
Cottonwood	2,320	--	643	--	--	--	274	424	674	304	--
Willow	317	--	317	--	--	--	--	--	--	--	--
Hackberry	--	--	--	--	--	--	--	--	--	--	--
Other hardwoods	2,546	--	635	--	881	412	340	--	278	--	--
Total	15,682	--	5,982	1,958	2,332	2,359	1,145	580	1,021	304	--
All species	16,417	600	5,982	2,093	2,332	2,359	1,145	580	1,021	304	--

[1/] Tables may not add to total due to rounding.

[2/] International 1/4-inch rule.

Table 46.--Net annual growth of growing stock on commercial forest land by species group and ownership class, Eastern South Dakota, 1979[1/]

(In thousand cubic feet)

Species group	All classes	Ownership class					
		Federal	Indian	State	County and municipal	Farmer	Misc. private
SOFTWOODS							
Ponderosa pine	344	--	344	--	--	--	--
Juniper	15	--	1	--	--	15	--
Total	359	--	345	--	--	15	--
HARDWOODS							
Oak	57	--	12	2	--	43	--
Basswood	14	--	11	1	--	2	--
Soft maple	16	--	--	--	--	16	--
Elm	217	--	24	-4	--	188	8
Ash	363	--	143	2	10	197	11
Cottonwood	290	--	11	--	34	239	5
Willow	24	--	5	--	--	19	--
Hackberry	9	--	--	--	--	9	--
Other hardwoods	102	--	1	--	--	101	--
Total	1,093	--	208	1	44	815	25
All species	1,452	--	553	1	44	829	25

[1/] Tables may not add to total due to rounding.

Table 47.--Net annual growth of sawtimber on commercial forest land by species group and ownership class, Eastern South Dakota, 1979[1/]

(In thousand board feet)[2/]

Species group	All classes	Ownership class					
		Federal	Indian	State	County and municipal	Farmer	Misc. private
SOFTWOODS							
Ponderosa pine	2,425	--	2,425	--	--	--	--
Juniper	14	--	3	--	--	11	--
Total	2,439	--	2,428	--	--	11	--
HARDWOODS							
Oak	254	--	38	46	--	171	--
Basswood	47	--	47	--	--	--	--
Soft maple	289	--	--	--	--	289	--
Elm	445	--	93	7	--	345	--
Ash	2,089	--	854	7	--	1,227	--
Cottonwood	1,556	--	47	--	143	1,343	24
Willow	141	--	32	--	--	110	--
Hackberry	--	--	--	--	--	--	--
Other hardwoods	288	--	--	--	--	288	--
Total	5,109	--	1,111	60	143	3,772	24
All species	7,548	--	3,538	60	143	3,782	24

[1/] Tables may not add to total due to rounding.

[2/] International 1/4-inch rule.

Table 48.--Net annual growth of growing stock on commercial forest land by species group and forest type, Eastern South Dakota, 1979[1/]

(In thousand cubic feet)

Species group	All types	Forest type					
		Ponderosa pine	Oak	Elm-ash	Cottonwood	Plains hardwoods	Nonstocked
SOFTWOODS							
Ponderosa pine	344	347	--	5	--	--	-8
Juniper	15	--	--	11	--	4	1
Total	359	347	--	15	--	4	-8
HARDWOODS							
Oak	57	2	24	20	--	8	4
Basswood	14	--	--	13	--	1	--
Soft maple	16	--	--	9	--	8	--
Elm	217	--	--	200	6	-2	13
Ash	363	--	13	272	27	46	6
Cottonwood	290	--	--	15	261	14	--
Willow	24	--	2	18	5	--	--
Hackberry	9	--	--	5	--	--	4
Other hardwoods	102	--	3	60	--	33	6
Total	1,093	2	42	610	298	108	32
All species	1,452	350	42	626	298	112	24

[1/] Tables may not add to total due to rounding.

Table 49.--Net annual growth of sawtimber on commercial forest land by species group and forest type, Eastern South Dakota, 1979[1/]

(In thousand board feet)[2/]

Species group	All types	Forest type					
		Ponderosa pine	Oak	Elm-ash	Cottonwood	Plains hardwoods	Nonstocked
SOFTWOODS							
Ponderosa pine	2,425	2,406	--	24	--	--	-5
Juniper	14	--	--	--	--	11	3
Total	2,439	2,406	--	24	--	11	-2
HARDWOODS							
Oak	254	--	112	97	--	46	--
Basswood	47	--	--	47	--	--	--
Soft maple	289	--	--	242	--	47	--
Elm	445	24	--	344	57	20	--
Ash	2,089	--	53	1,842	54	133	7
Cottonwood	1,556	--	--	65	1,434	57	--
Willow	141	--	11	113	18	--	--
Hackberry	--	--	--	--	--	--	--
Other hardwoods	288	--	22	207	--	40	20
Total	5,109	24	197	2,957	1,562	343	26
All species	7,548	2,430	197	2,980	1,562	353	25

[1/] Tables may not add to total due to rounding.

[2/] International 1/4-inch rule.

Table 50.--Net annual growth of growing stock on commercial forest land by forest type and stand-age class, Eastern South Dakota, 1979[1/]

(In thousand cubic feet)

Forest type	All classes	Stand-age class (years)												
		0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	141+
Ponderosa pine	350	--	--	--	22	--	41	213	44	--	30	--	--	--
Oak	42	--	--	--	--	--	--	--	20	--	--	23	--	--
Elm-ash	626	135	5	164	97	35	45	38	33	37	--	26	10	--
Cottonwood	298	--	--	--	--	55	--	-1	101	55	49	30	10	--
Plains hardwoods	112	31	10	--	52	--	--	1	--	18	--	--	--	--
Nonstocked	24	1	--	4	--	5	1	13	--	--	--	--	--	--
All types	1,452	167	15	168	171	96	87	265	197	110	79	79	20	--

[1/]Tables may not add to total due to rounding.

Table 51.--Net annual growth of sawtimber on commercial forest land by forest type and stand-age class, Eastern South Dakota, 1979[1/]

(In thousand board feet)[2/]

Forest type	All classes	Stand-age class (years)												
		0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	141+
Ponderosa pine	2,430	--	--	--	27	--	173	1,536	154	--	539	--	--	--
Oak	197	--	--	--	--	--	--	--	78	--	--	120	--	--
Elm-ash	2,980	389	--	128	711	24	625	25	237	375	--	444	21	--
Cottonwood	1,562	--	--	--	--	133	--	156	734	208	195	96	40	--
Plains hardwoods	353	118	--	--	57	--	--	60	--	118	--	--	--	--
Nonstocked	25	-2	--	--	--	--	7	20	--	--	--	--	--	--
All types	7,548	506	--	128	796	157	805	1,797	1,203	702	734	659	61	--

[1/]Tables may not add to total due to rounding.

[2/]International 1/4-inch rule.

Table 52.--Timber removals from growing stock and sawtimber on commercial forest land by species group, Eastern South Dakota, 1964 and 1979[1/]

Species group	Growing stock		Sawtimber	
	1964[2/]	1979	1964[2/]	1979
	Thousand cubic feet		Thousand board feet[3/]	
SOFTWOODS				
Ponderosa pine	491	91	859	309
Juniper	75	48	--	4
Total	566	139	859	313
HARDWOODS				
Oak	302	45	704	106
Basswood	40	12	21	25
Soft maple	20	13	35	55
Elm	362	395	1,014	1,083
Ash	598	313	1,158	808
Cottonwood	1,223	778	5,511	2,997
Willow	43	18	117	43
Hackberry	3	6	2	--
Other hardwoods	43	43	72	141
Total	2,634	1,623	8,634	5,258
All species	3,200	1,762	9,493	5,571

[1/] Removals in 1979 are trend-level removals. Tables may not add to total due to rounding.

[2/] Figures have been adjusted from those published after the 1965 survey to conform to 1980 volumes because of changes in survey definitions and procedures.

[3/] International 1/4-inch rule.

Table 53.--Timber removals from growing stock and sawtimber on commercial forest land by item and species category, Eastern South Dakota, 1979[1/]

Item	All species	Species category					
		Softwoods	Oak	Elm-hackberry	Ash	Cottonwood	Other hardwoods
	GROWING STOCK						
	Thousand cubic feet						
ROUNDWOOD PRODUCTS							
Saw logs	303	[2/]	2	43	47	198	13
Fuelwood	342	--	--	245	5	88	4
Posts	34	34	--	--	--	--	--
Total	679	34	2	288	52	286	17
LOGGING RESIDUE	57	--	--	8	7	40	2
OTHER REMOVALS	1,026	105	43	105	254	452	67
ALL TIMBER REMOVALS	1,762	139	45	401	313	778	86
	SAWTIMBER						
	Thousand board feet[3/]						
ROUNDWOOD PRODUCTS							
Saw logs	1,642	4	13	232	264	1,059	70
Fuelwood	976	--	--	682	20	254	20
Posts	--	--	--	--	--	--	--
Total	2,618	4	13	914	284	1,313	90
LOGGING RESIDUE	182	--	1	29	13	130	9
OTHER REMOVALS	2,771	309	92	140	511	1,554	165
ALL TIMBER REMOVALS	5,571	313	106	1,083	808	2,997	264

[1/] Tables may not add to total due to rounding.

[2/] Nominal amount rounded to zero.

[3/] International 1/4-inch rule.

Table 54.--Net annual growth and removals of growing stock on commercial forest land by species group, Eastern South Dakota, 1979[1/]

(In thousand cubic feet)

Species group	Net annual growth	Annual timber removals
SOFTWOODS		
Ponderosa pine	344	91
Juniper	15	48
Total	359	139
HARDWOODS		
Oak	57	45
Basswood	14	12
Soft maple	16	13
Elm	217	395
Ash	363	313
Cottonwood	290	778
Willow	24	18
Hackberry	9	6
Other hardwoods	102	43
Total	1,093	1,623
All species	1,452	1,762

[1/] Tables may not add to total due to rounding.

Table 55.--Net annual growth and removals of sawtimber on commercial forest land by species group, Eastern South Dakota, 1979[1/]

(In thousand board feet)[2/]

Species group	Net annual growth	Annual timber removals
SOFTWOODS		
Ponderosa pine	2,425	309
Juniper	14	4
Total	2,439	313
HARDWOODS		
Oak	254	106
Basswood	47	25
Soft maple	289	55
Elm	445	1,083
Ash	2,089	808
Cottonwood	1,556	2,997
Willow	141	43
Hackberry	--	--
Other hardwoods	288	141
Total	5,109	5,258
All species	7,548	5,571

[1/] Tables may not add to total due to rounding.

[2/] International 1/4-inch rule.

Table 56.--Net annual growth and removals of growing stock on commercial forest land by ownership class and softwoods and hardwoods, Eastern South Dakota, 1979[1/]

(In thousand cubic feet)

Ownership class	Net annual growth			Annual timber removals		
	All species	Softwoods	Hardwoods	All species	Softwoods	Hardwoods
Federal	--	--	--	6	--	6
Indian	553	345	208	34	34	--
State	1	--	1	--	--	--
County & municipal	44	--	44	--	--	--
Farmer and Misc. private	854	15	840	1,722	105	1,617
All owners	1,452	359	1,093	1,762	139	1,623

[1/] Tables may not add to total due to rounding.

Table 57.--Net annual growth and removals of sawtimber on commerical forest land by ownership class and softwoods and hardwoods, Eastern South Dakota, 1979[1/]

(In thousand board feet)[2/]

Ownership class	Net annual growth			Annual timber removals		
	All species	Softwoods	Hardwoods	All species	Softwoods	Hardwoods
Federal	--	--	--	17	--	17
Indian	3,538	2,428	1,111	--	--	--
State	60	--	60	--	--	--
County & municipal	143	--	143	--	--	--
Farmer and Misc. private	3,806	11	3,796	5,554	313	5,241
All owners	7,548	2,439	5,110	5,571	313	5,258

[1/] Tables may not add to total due to rounding.

[2/] International 1/4-inch rule.

Table 58.--Annual mortality of growing stock on commercial forest land by species group and cause, Eastern South Dakota, 1979[1/]

(In thousand cubic feet)

Species group	All causes	Cause						
		Insects	Disease	Fire	Animals	Weather	Suppression	Unknown and other
SOFTWOODS								
Ponderosa pine	9	--	--	9	--	--	--	--
Juniper	1	--	--	--	--	--	--	1
Total	10	--	--	9	--	--	--	1
HARDWOODS								
Oak	3	--	--	--	--	--	--	3
Basswood	1	--	--	--	--	--	--	1
Soft maple	5	--	5	--	--	--	--	--
Elm	54	--	51	--	--	--	--	2
Ash	61	--	30	--	--	--	--	31
Cottonwood	31	--	14	--	--	--	--	17
Willow	1	--	--	--	--	--	--	1
Hackberry	1	--	--	--	--	--	--	1
Other hardwoods	9	--	--	--	--	--	--	9
Total	166	--	100	--	--	--	--	65
All species	176	--	100	9	--	--	--	66

[1/] Tables may not add to total due to rounding.

Table 59.--Annual mortality of sawtimber on commercial forest land by species group and cause, Eastern South Dakota, 1979[1/]

(In thousand board feet)[2/]

Species group	All causes	Cause						
		Insects	Disease	Fire	Animals	Weather	Suppression	Unknown and other
SOFTWOODS								
Ponderosa pine	6	--	--	5	--	--	--	--
Juniper	1	--	--	--	--	--	--	1
Total	6	--	--	5	--	--	--	1
HARDWOODS								
Oak	12	--	--	--	--	--	--	12
Basswood	4	--	--	--	--	--	--	4
Soft maple	--	--	--	--	--	--	--	--
Elm	55	--	55	--	--	--	--	--
Ash	169	--	166	--	--	--	--	2
Cottonwood	63	--	63	--	--	--	--	--
Willow	10	--	--	--	--	--	--	10
Hackberry	--	--	--	--	--	--	--	--
Other hardwoods	5	--	--	--	--	--	--	5
Total	318	--	284	--	--	--	--	33
All species	323	--	284	5	--	--	--	34

[1/] Tables may not add to total due to rounding.

[2/] International 1/4-inch rule.

Table 60.--Annual mortality of growing stock and sawtimber on commercial forest land by ownership class and softwoods and hardwoods, Eastern South Dakota, 1980[1/]

Ownership class	Growing stock			Sawtimber		
	All species	Softwoods	Hardwoods	All species	Softwoods	Hardwoods
	- - - - Thousand cubic feet - - -			- - - - Thousand board feet[2/] - - - -		
Federal	--	--	--	--	--	--
Indian	31	9	22	78	5	73
State	5	--	5	--	--	--
County and municipal	1	--	1	2	--	2
Farmer	137	1	136	241	1	241
Misc. private	2	--	2	3	--	3
All owners	176	10	166	323	6	318

[1/] Tables may not add to total due to rounding.

[2/] International 1/4-inch rule.

Table 61.--Output of timber products by product, softwoods and hardwoods, and source of material, Eastern South Dakota, 1978[1/]

Product and softwoods and hardwoods	Standard units	Total		Roundwood products				Plant byproducts	
				Growing stock		Non-growing stock			
		No. of units	Thousand cubic feet	No. of units	Thousand cubic feet	No. of units	Thousand cubic feet	No. of units	Thousand cubic feet
SAW LOGS									
Softwood	Thousand board feet[3/]	4	[2/]	4	[2/]	--	--	--	--
Hardwood		1,827	315	1,757	303	70	12	--	--
Total		1,831	315	1,761	303	70	12	--	--
FUELWOOD									
Softwood	Standard[4/] cords	3	[2/]	1	[2/]	2	[2/]	1	[2/]
Hardwood		12,093	800	5,189	342	6,205	409	699	49
Total		12,096	800	5,190	342	6,207	409	700	49
POSTS									
Softwood	Thousand pieces	72	45	54	34	18	11	--	--
Hardwood		--	--	--	--	--	--	--	--
Total		72	45	54	34	18	11	--	--
OTHER[5/]									
Softwood	Thousand cubic feet	--	--	--	--	--	--	--	--
Hardwood		40	40	--	--	--	--	40	40
Total		40	40	--	--	--	--	40	40
ALL PRODUCTS									
Softwood	Thousand cubic feet	45	45	34	34	11	11	[2/]	[2/]
Hardwood		1,155	1,155	645	645	421	421	89	89
Total		1,200	1,200	679	679	432	432	89	89

[1/] Tables may not add to total due to rounding.

[2/] Nominal quantity rounded to zero.

[3/] International 1/4-inch rule.

[4/] Rough-wood, 128 cubic-foot basis.

[5/] Includes charcoal wood, livestock bedding, mulch, and specialty items.

Table 63.--Timber products from roundwood by species group and product, Eastern South Dakota, 1979[1/]

Species group	All products	Saw logs		Fuelwood		Posts	
	Thousand cubic feet	Thousand board feet[2/]	Thousand cubic feet	Cords	Thousand cubic feet	Thousand pieces	Thousand cubic feet
SOFTWOODS							
Ponderosa pine	--	2	--	--	--	--	--
Juniper	45	2	--	2	--	72	45
Total	45	4	--	2	--	72	45
HARDWOODS							
Oak	2	14	2	--	--	--	--
Basswood	--	--	--	--	--	--	--
Soft maple	1	6	1	--	--	--	--
Elm	581	259	45	7,959	536	--	--
Ash	56	288	48	238	8	--	--
Cottonwood	405	1,187	207	2,960	198	--	--
Willow	--	--	--	--	--	--	--
Hackberry	--	--	--	--	--	--	--
Black walnut	2	15	2	--	--	--	--
Boxelder	9	--	--	237	9	--	--
Other hardwoods	10	58	10	--	--	--	--
Total	1,066	1,827	315	11,394	751	--	--
All species	1,111	1,831	315	11,396	751	72	45

[1/] Tables may not add to total due to rounding.

[2/] International 1/4-inch rule.

Table 62.--Output of roundwood products by product, softwoods and hardwoods, and source of material, Eastern South Dakota, 1979[1/]

(In thousand cubic feet)

Product and softwoods and hardwoods	All sources	Growing-stock trees			Rough and rotten trees	Salvable dead trees	Other sources
		Total	Sawtimber	Poletimber			
INDUSTRIAL PRODUCTS							
Saw logs							
Softwood	--	--	--	--	--	--	--
Hardwood	315	303	287	16	6	--	6
Subtotal	315	303	287	16	6	--	6
Posts (Round and split)							
Softwood	45	34	5	29	--	--	11
Hardwood	--	--	--	--	--	--	--
Subtotal	45	34	5	29	--	--	11
All industrial products							
Softwood	45	34	5	29	--	--	11
Hardwood	315	303	287	16	6	--	6
Total	360	337	292	45	6	--	17
FUELWOOD							
Softwood	--	--	--	--	--	--	--
Hardwood	751	342	189	153	162	5	242
Total	751	342	189	153	162	5	242
ALL PRODUCTS							
Softwood	45	34	5	29	--	--	11
Hardwood	1,066	645	476	169	168	5	248
Total	1,111	679	481	198	168	5	259

[1/] Tables may not add to total due to rounding.

Table 63.--Timber products from roundwood by species group and product, Eastern South Dakota, 1979[1/]

Species group	All products	Saw logs		Fuelwood		Posts	
	Thousand cubic feet	Thousand[2/] board feet	Thousand cubic feet	Cords	Thousand cubic feet	Thousand pieces	Thousand cubic feet
SOFTWOODS							
Ponderosa pine	--	2	--	--	--	--	--
Juniper	45	2	--	2	--	72	45
Total	45	4	--	2	--	72	45
HARDWOODS							
Oak	2	14	2	--	--	--	--
Basswood	--	--	--	--	--	--	--
Soft maple	1	6	1	--	--	--	--
Elm	581	259	45	7,959	536	--	--
Ash	56	288	48	238	8	--	--
Cottonwood	405	1,187	207	2,960	198	--	--
Willow	--	--	--	--	--	--	--
Hackberry	--	--	--	--	--	--	--
Black walnut	2	15	2	--	--	--	--
Boxelder	9	--	--	237	9	--	--
Other hardwoods	10	58	10	--	--	--	--
Total	1,066	1,827	315	11,394	751	--	--
All species	1,111	1,831	315	11,396	751	72	45

[1/] Tables may not add to total due to rounding.

[2/] International 1/4-inch rule.

Table 64.--Volume of primary plant residue by type of use and kind of material, Eastern South Dakota, 1979[1/]

(In thousand cubic feet)

Type of use	Total		Kind of wood residue					
			Coarse[2/]		Fine[3/]		Bark	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Fiber products	--	--	--	--	--	--	--	--
Industrial fuel	--	--	--	--	--	--	--	--
Domestic fuel	0.1	48.9	0.1	48.9	--	--	--	31.0
Miscellaneous[4/]	0.1	40.2	--	0.3	0.1	39.9	--	--
Not used[5/]	--	26.8	--	24.0	--	2.8	0.1	16.3
Total	0.2	115.9	0.1	73.2	0.1	42.7	0.1	47.3

[1/] Tables may not add to total due to rounding.

[2/] Suitable for chipping such as slabs, edgings, veneer cores, etc.

[3/] Not suitable for chipping such as sawdust, veneer clippings, etc.

[4/] Livestock bedding, mulch, small dimension, charcoal, and specialty items.

[5/] Includes residue burned as waste.

Table 65.--All live shrub biomass yields on commercial forest land by species group and forest type, Eastern South Dakota, 1980[1/]

(In pounds per acre green weight)

Species group	Forest type					
	Ponderosa pine	Oak	Elm-ash	Cottonwood	Plains hardwoods	Nonstocked
TALL SHRUBS						
Eastern redcedar	0.1	--	--	0.1	24.7	--
Juniper	--	--	0.7	--	--	--
Boxelder	2.3	0.1	2.4	3.5	62.1	38.1
Hackberry	--	--	4.2	21.0	--	1.0
Dogwood	--	--	--	122.4	127.3	--
Hawthorn	1.0	--	9.2	--	--	--
Ash	1.8	5.9	69.2	31.3	99.9	11.3
Wild plum	75.8	--	2.5	--	--	--
Leatherwood	--	8.7	--	--	--	--
Red mulberry	--	--	34.7	--	--	--
E. hophornbeam	--	--	0.2	--	--	--
Chokecherry	43.3	259.7	135.6	5.6	35.0	25.3
Oak	--	13.2	--	--	1.5	0.8
Hazel	--	11.8	--	--	--	--
Juneberry	5.4	--	9.2	--	--	--
Alder buckthorn	0.5	0.3	0.5	--	--	--
Sumac	--	--	44.1	5.8	139.7	8.5
Basswood	--	--	0.9	--	--	--
Elm	22.6	1.2	5.3	--	115.8	0.1
Total	152.9	300.8	318.8	189.6	606.0	85.2
LOW SHRUBS						
Rose	14.3	76.4	28.5	7.8	139.5	66.8
Virginia creeper	--	--	9.7	--	79.8	--
Gooseberry-currant	8.7	275.8	25.5	--	3.2	--
Honeysuckle	49.4	--	15.7	--	223.3	--
Snowberry	123.0	521.2	155.7	170.7	17.7	470.9
Raspberry-blackberry	--	--	1.7	--	--	--
Poison ivy	12.6	--	90.2	14.1	33.5	--
Greenbriar	--	--	0.9	--	--	--
Grape	--	--	0.7	33.4	6.7	--
Total	208.1	873.3	328.8	225.9	503.8	537.7
All shrubs	360.9	1,174.2	647.7	415.6	1,109.8	622.9
Number of plots	11	3	31	11	8	10

[1/] Tables may not add to total due to rounding.

Table 66.--All live tree biomass yields on commercial forest land by species group and forest type, Eastern South Dakota, 1980[1/]

(In pounds per acre green weight)

Species group	Forest type					
	Ponderosa pine	Oak	Elm-ash	Cottonwood	Plains hardwoods	Nonstocked
SOFTWOODS						
Ponderosa pine	53,913	--	784	--	--	--
Juniper	2,976	--	497	113	1,800	779
Total	56,889	--	1,281	113	1,800	779
HARDWOODS						
Oak	3,429	47,083	9,453	--	6,209	5,058
Basswood	--	--	1,436	--	3,451	--
Soft maple	--	--	2,103	--	3,323	--
Elm	901	3,801	15,596	784	3,489	4,771
Ash	--	14,452	21,843	8,487	19,843	5,135
Cottonwood	600	--	3,074	86,690	9,629	--
Willow	--	1,827	1,392	1,719	433	--
Hackberry	--	--	1,529	--	--	2,183
Other hardwoods	418	1,584	6,158	614	17,341	5,863
Noncommercial species	--	--	160	--	--	--
Total	5,348	68,747	62,743	98,293	63,719	23,010
All species	62,237	68,747	64,024	98,407	65,518	23,789
Number of plots	11	3	31	11	8	10

[1/]Tables may not add to total due to rounding.

Table 67.--All live tree biomass on commercial forest land by species group and forest type, Eastern South Dakota, 1980[1/]

(In green tons)

Species group	All types	Forest type					
		Ponderosa pine	Oak	Elm-ash	Cottonwood	Plains hardwoods	Nonstocked
SOFTWOODS							
Ponderosa pine	497,659	479,826	--	17,832	--	--	--
Juniper	56,139	26,483	--	11,301	1,050	11,698	5,608
Total	553,798	506,309	--	29,133	1,050	11,698	5,608
HARDWOODS							
Oak	428,273	30,519	105,937	215,045	--	40,357	36,415
Basswood	55,101	--	--	32,667	--	22,434	--
Soft maple	69,442	--	--	47,843	--	21,599	--
Elm	435,655	8,020	8,553	354,800	7,250	22,678	34,353
Ash	773,901	--	32,517	496,930	78,500	128,980	36,974
Cottonwood	939,735	5,336	--	69,926	801,884	62,588	--
Willow	54,501	--	4,110	31,671	15,902	2,818	--
Hackberry	50,503	--	--	34,786	--	--	15,717
Other hardwoods	307,997	3,722	3,564	140,102	5,676	112,718	42,215
Noncommercial species	3,641	--	--	3,641	--	--	--
Total	3,118,747	47,597	154,681	1,427,411	909,213	414,172	165,673
All species	3,672,545	553,906	154,681	1,456,544	910,263	425,870	171,281

[1/]Tables may not add to total due to rounding.

Table 68.--All live tree biomass by species group and tree biomass component, Eastern South Dakota, 1980[1/]

(Green tons)

Species group	All components	Biomass component				
		1- to 5-inch trees	Growing stock		Cull	
			Boles	Tops and limbs	Boles	Tops and limbs
SOFTWOODS						
Ponderosa pine	497,659	42,026	288,666	133,447	22,445	11,075
Juniper	56,139	25,604	10,899	5,143	9,166	5,326
Total	553,798	67,630	299,565	138,591	31,611	16,401
HARDWOODS						
Oak	428,273	54,999	110,186	53,069	140,655	69,364
Basswood	55,101	5,847	16,176	7,773	16,723	8,583
Soft maple	69,442	--	16,637	8,297	27,307	17,201
Elm	435,655	27,411	122,014	61,349	145,448	79,433
Ash	773,901	91,897	337,289	161,149	115,204	68,361
Cottonwood	939,735	8,443	522,861	251,339	100,432	56,660
Willow	54,501	--	21,625	10,475	13,029	9,373
Hackberry	50,503	31,592	8,811	4,005	4,191	1,905
Other hardwoods	307,997	25,750	56,388	28,789	118,470	78,600
Noncommercial species	3,641	3,641	--	--	--	--
Total	3,118,747	249,580	1,211,987	586,243	681,457	389,481
All species	3,672,545	317,210	1,511,552	724,834	713,067	405,882

[1/] Tables may not add to total due to rounding.

Table 69.--Sampling errors for estimates smaller than the Unit totals of volume, net growth, removals, and area of commercial forest land, Eastern South Dakota, 1980[1/]

Sampling error	Commercial forest area	Growing Stock			Sawtimber		
		Inventory	Growth	Removals	Inventory	Growth	Removals
Percent	Thousand acres	Million cubic feet			Million board feet[2/]		
25	262.9	136.1	6.5	2.1	260.0	25.7	5.6
30	182.6	94.5	4.5	1.5	180.5	17.8	3.9
35	134.1	69.4	3.3	1.1	132.6	13.1	2.9
40	102.7	53.2	2.6	0.8	101.6	10.0	2.2
45	81.1	42.0	2.0	0.6	80.2	7.9	1.7
50	65.7	34.0	1.6	0.5	65.0	6.4	1.4
60	45.7	23.6	1.1	0.4	45.1	4.5	1.0
70	33.5	17.4	0.8	0.3	33.2	3.3	0.7
80	25.7	13.3	0.6	0.2	25.4	2.5	0.6
90	20.3	10.5	0.5	0.2	20.1	2.0	0.4
100	16.4	8.5	0.4	0.1	16.2	1.6	0.4

[1/] At the 68-percent probability level. Tables may not add to total due to rounding.

[2/] International 1/4-inch rule.

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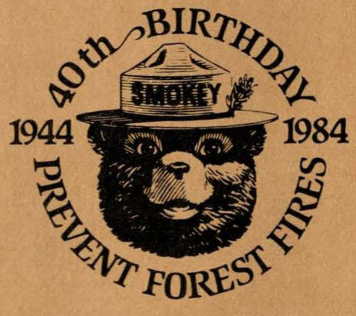
The third forest resource inventory of eastern South Dakota showed a 31 percent decline in commercial forest area and 42 percent loss in growing-stock volume between 1965 and 1980.

KEY WORDS: Area, volume, growth, mortality, removals.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